

Proceedings

2006 IEEE Computer Society Conference on Computer Vision and Pattern Recognition

CVPR 2006

June 17 – 22, 2006
New York, NY



Los Alamitos, California

Washington • Tokyo

TABLE OF CONTENTS

ORAL SESSION 1: RECOGNITION

Incremental Learning of Object Detectors using a Visual Shape Alphabet	1
<i>Andreas Opelt, Axel Pinz, Andrew Zisserman</i>	
Multiclass Object Recognition with Sparse, Localized Features	9
<i>Jim Mutch, David G. Lowe</i>	
Unsupervised Learning of Categories from Sets of Partially Matching Image Features	17
<i>Kristen Grauman, Trevor Darrell</i>	
Multiple Object Class Detection with a Generative Model	24
<i>Krystian Mikolajczyk, Bastian Leibe, Bernt Schiele</i>	

ORAL SESSION 2: SEGMENTATION

The Layout Consistent Random Field for Recognizing and Segmenting Partially Occluded Objects	32
<i>John Winn, Jamie Shotton</i>	
Ultrasound-Specific Segmentation via Decorrelation and Statistical Region-Based Active Contours	40
<i>Greg Slabaugh, Gozde Unal, Tong Fang, Michael Wels</i>	
Bilayer Segmentation of Live Video	48
<i>A. Criminisi, G. Cross, A. Blake, V. Kolmogorov</i>	
A Closed Form Solution to Natural Image Matting	56
<i>Anat Levin, Dani Lischinski, Yair Weiss</i>	
Computing Exact Discrete Minimal Surfaces: Extending and Solving the Shortest Path Problem in 3D with Application to Segmentation	64
<i>Leo Grady</i>	

POSTER SESSION 1: LEARNING

Recursive Estimation of Generative Models of Video	72
<i>Nemanja Petrovic, Aleksandar Ivanovic, Nebojsa Jojic</i>	
Principled Hybrids of Generative and Discriminative Models	80
<i>Julia A. Lasserre, Christopher M. Bishop, Thomas P. Minka</i>	
Applying Ensembles of Multilinear Classifiers in the Frequency Domain	88
<i>Christian Bauckhage, Thomas Kaster, John K. Tsotsos</i>	
A Conic Section Classifier and its Application to Image Datasets	96
<i>Arunava Banerjee, Santhosh Kodipaka, Baba C. Vemuri</i>	
Accelerated Kernel Feature Analysis	102
<i>Xianhua Jiang, Robert R. Snapp, Yuichi Motai, Xingquan Zhu</i>	

Escaping Local Minima through Hierarchical Model Selection: Automatic Object Discovery, Segmentation, and Tracking in Video	110
<i>Nebojsa Jojic, John Winn, Larry Zitnick</i>	
Kernel Uncorrelated and Orthogonal Discriminant Analysis: A Unified Approach	118
<i>Tao Xiong, Jieping Ye, Vladimir Cherkassky</i>	
Selecting Principal Components in a Two-Stage LDA Algorithm	125
<i>Manli Zhu, Aleix M. Martinez</i>	
Learning Non-Metric Partial Similarity Based on Maximal Margin Criterion	131
<i>Xiaoyang Tan, Songcan Chen, Zhi-Hua Zhou, Jun Liu</i>	
Distributed Cost Boosting and Bounds on Mis-classification Cost	139
<i>John Kaufhold, Robert Kaucic, Justin Abbott</i>	
Equivalence of Non-Iterative Algorithms for Simultaneous Low Rank Approximations of Matrices.....	147
<i>Kohei Inoue, Kiichi Urahama</i>	
Semi-Supervised Classification Using Linear Neighborhood Propagation.....	153
<i>Fei Wang, Jingdong Wang, Changshui Zhang, Helen C. Shen</i>	
Learning Semantic Patterns with Discriminant Localized Binary Projections	161
<i>Shuicheng Yan, Xiaoou Tang, Tianqiang Yuan</i>	
Rank-one Projections with Adaptive Margins for Face Recognition	168
<i>Dong Xu, Stephen Lin, Shuicheng Yan, Xiaoou Tang,</i>	
Hierarchical Statistical Learning of Generic Parts of Object Structure	175
<i>Sanja Fidler, Gregor Berginc, Ales Leonardis</i>	
Spectral Methods for Automatic Multiscale Data Clustering	183
<i>Arik Azran, Zoubin Ghahramani</i>	
Impact of Dynamics on Subspace Embedding and Tracking of Sequences.....	191
<i>Kooksang Moon, Vladimir Pavlovic</i>	
Training Deformable Models for Localization	199
<i>Deva Ramanan, Cristian Sminchisescu</i>	
Efficient Nonparametric Belief Propagation with Application to Articulated Body Tracking.....	207
<i>Tony X. Han, Huazhong Ning, Thomas S. Huang</i>	
Conditional Random People: Tracking Humans with CRFs and Grid Filters.....	215
<i>Leonid Taycher, Gregory Shakhnarovich, David Demirdjian, Trevor Darrell</i>	
Sparse and Semi-supervised Visual Mapping with the S3GP	223
<i>Oliver Williams, Andrew Blake, Roberto Cipolla</i>	
3D People Tracking with Gaussian Process Dynamical Models	231
<i>Raquel Urtasun, David J. Fleet, Pascal Fua</i>	
Diffusion Distance for Histogram Comparison	239
<i>Haibin Ling, Kazunori Okada</i>	
Transformation Invariant Component Analysis for Binary Images	247
<i>Zoran Zivkovic and Jakob Verbeek</i>	
On-line Boosting and Vision.....	253
<i>Helmut Grabner</i>	

Discriminative Learning of Mixture of Bayesian Network Classifiers for Sequence Classification	261
<i>Minyoung Kim, Vladimir Pavlovic</i>	
Feature Selection for Evaluating Fluorescence Microscopy Images in Genome-Wide Cell Screens	269
<i>Vassili Kovalev, Nathalie Harder, Beate Neumann, Michael Held, Urban Liebel, Holger Erfle, Jan Ellenberg, Roland Eils, Karl Rohr</i>	
Large-scale Learning with SVM and Convolutional Nets for Generic Object Categorization	277
<i>Fu Jie Huang, Yann LeCun</i>	
Grouping with Asymmetric Affinities: A Game-Theoretic Perspective	285
<i>Andrea Torsello, Samuel Rota Buló, Marcello Pelillo</i>	
A Mean Field EM-algorithm for Coherent Occlusion Handling in MAP-Estimation Problems	293
<i>Rik Fransens, Christoph Strecha, Luc Van Gool</i>	
Improving Recognition of Novel Input with Similarity	301
<i>Jerod J. Weinman, Erik Learned-Miller</i>	
Toward Robust Distance Metric Analysis for Similarity Estimation	309
<i>Jie Yu, Jaime Amores, Nicu Sebe, Qi Tian</i>	
When Fisher meets Fukunaga-Koontz: A New Look at Linear Discriminants	316
<i>Sheng Zhang, Terence Sim</i>	
Learning Boosted Asymmetric Classifiers for Object Detection	323
<i>Xinwen Hou, Cheng-Lin Liu, Tieniu Tan</i>	

POSTER SESSION 2: GRAPHICS AND IMAGE SYNTHESIS

Lensless Imaging with a Controllable Aperture	329
<i>Assaf Zomet, Shree K. Nayar</i>	
Picture Collage	337
<i>Jingdong Wang, Jian Sun, Long Quan, Xiaoou Tang, Heung-Yeung Shum</i>	
Accurate Tracking of Monotonically Advancing Fronts	345
<i>M. Sabry Hassouna, Aly A. Farag</i>	
Real Time Localization and 3D Reconstruction	353
<i>E. Mouragnon, M. Lhuillier, M. Dhome, F. Dekeyser, P. Sayd</i>	
Panoramic 3D Reconstruction Using Rotational Stereo Camera with Simple Epipolar Constraints	361
<i>Wei Jiang, Masatoshi Okutomi, Shigeki Sugimoto</i>	
Contour-Based Structure from Reflection	369
<i>Po-Hao Huang, Shang-Hon Lai</i>	
Modeling Age Progression in Young Faces	377
<i>Narayanan Ramanathan, Rama Chellappa</i>	
Multi-Resolution Patch Tensor for Facial Expression Hallucination	385
<i>Kui Jia, Shaogang Gong</i>	
How Do Movie Viewers Perceive Scene Structure from Dynamic Cues	393
<i>Loong-Fah, Cheong, Xu Xiang</i>	

Video Completion by Motion Field Transfer	401
<i>Takaaki Shiratori, Yasuyuki Matsushita, Sing Bing Kang, Xiaoou Tang</i>	
The Design of High-Level Features for Photo Quality Assessment	409
<i>Yan Ke, Xiaoou Tang, Feng Jing</i>	
Quantitative Evaluation of Near Regular Texture Synthesis Algorithms	417
<i>Wen-Chieh Lin, James Hays, Chenyu Wu, Vivek Kwatra, Yanxi Liu</i>	
Making a Long Video Short: Dynamic Video Synopsis	425
<i>Alex Rav-Acha, Yael Pritch, Shmuel Peleg</i>	
Image Completion Using Global Optimization	432
<i>Nikos Komodakis, Georgios Tziritas</i>	

ORAL SESSION 3: GEOMETRY

RANSAC for (Quasi-)Degenerate Data (QDEGSAC)	440
<i>Jan-Michael Frahm, Marc Pollefeys</i>	
Single-Image Vignetting Correction	448
<i>Yuanjie Zheng, Stephen Lin, Sing Bing Kang</i>	
Scalable Monocular SLAM	456
<i>Ethan Eade, Tom Drummond</i>	
Structure from Motion with Known Camera Positions	464
<i>Rodrigo Carceroni, Ankita Kumar, Kostas Daniilidis</i>	
Removing Outliers Using The L-infinity Norm	472
<i>Kristy Sim, Richard Hartley</i>	

ORAL SESSION 4: STEREO AND 3D RECONSTRUCTION

Polarization-based Surface Reconstruction via Patch Matching	480
<i>Gary Atkinson, Edwin Hancock</i>	
Hierarchical Volumetric Multi-view Stereo Reconstruction of Manifold Surfaces based on Dual Graph Embedding	488
<i>Alexander Hornung, Leif Kobbelt</i>	
Improving Border Localization of Multi-Baseline Stereo Using Border-Cut	496
<i>Marc-Antoine Drouin, Martin Trudeau, Sebastien Roy</i>	
A Comparison and Evaluation of Multi-View Stereo Reconstruction Algorithms	504
<i>Steven M. Seitz, Brian Curless, James Diebel, Daniel Scharstein, Richard Szeliski</i>	

POSTER SESSION 3: TRACKING AND VIDEO ANALYSIS

A General Framework and New Alignment Criterion for Dense Optical Flow	512
<i>Rami Ben-Ari, Nir Sochen</i>	
Using Stationary-Dynamic Camera Assemblies for Wide-area Video Surveillance and Selective Attention	520
<i>Ankur Jain, Dan Kopell, Kyle Kakligian, Yuan-Fang Wang</i>	

Modeling Correspondences for Multi-Camera Tracking Using Nonlinear Manifold Learning and Target Dynamics	528
<i>Vlad I. Morariu, Octavia I. Camps</i>	
Efficient Maximally Stable Extremal Region (MSER) Tracking	536
<i>Michael Donoser, Horst Bischof</i>	
Identifying Color in Motion in Video Sensors	544
<i>Gang Wu, Amir Rahimi, Kingshy Goh, Tomy Tsai, Ankur Jain, Yi Wu, Edward Y. Chang, Yuan-Fang Wang</i>	
Spatial Divide and Conquer with Motion Cues for Tracking through Clutter	553
<i>Zhaozheng Yin, Robert Collins</i>	
Robust Multi-target Tracking using Spatio-temporal Context.....	561
<i>Hieu T. Nguyen , Qiang Ji, Arnold W.M. Smeulders</i>	
Unsupervised Bayesian Detection of Independent Motion in Crowds.....	569
<i>Gabriel J. Brostow, Roberto Cipolla</i>	
A Joint Illumination and Shape Model for Visual Tracking	577
<i>Amit Kale, Christopher Jaynes</i>	
Kernel-based Template Alignment.....	585
<i>Igor Guskov</i>	
Toward Optimal Kernel-based Tracking.....	593
<i>Maneesh Dewan, Gregory D. Hager</i>	
Interactive Feature Tracking using K-D Trees and Dynamic Programming	601
<i>Aeron Buchanan, Andrew Fitzgibbon</i>	
A Novel Data Association Algorithm for Object Tracking in Clutter with Application to Tennis Video Analysis.....	609
<i>Fei Yan, Alexey Kostin, William Christmas, Josef Kittler</i>	
Fusion of Detection and Matching Based Approaches for Laser Based Multiple People Tracking.....	617
<i>Jinshi Cui, Hongbin Zha, Huijing Zhao, Ryosuke Shibasaki</i>	
Measurement Integration under Inconsistency for Robust Tracking	625
<i>Gang Hua, Ying Wu</i>	
Efficient Optimal Kernel Placement for Reliable Visual Tracking	633
<i>Zhimin Fan, Ming Yang, Ying Wu, Gang Hua, Ting Yu</i>	
Multi-Object Tracking Through Simultaneous Long Occlusions and Split-Merge Conditions	641
<i>A. G. Amitha Perera, Chukka Srinivas, Anthony Hoogs, Glen Brooksby, Wensheng Hu</i>	
Tracking With Sobolev Active Contours	649
<i>Ganesh Sundaramoorthi, Jeremy D. Jackson, Anthony Yezzi, Andrea C. Mennucci</i>	
Robust Real-Time Face Pose and Facial Expression Recovery.....	656
<i>Zhiwei Zhu, Qiang Ji</i>	
Off-road Path Following using Region Classification and Geometric Projection Constraints.....	664
<i>Yaniv Alon, Andras Ferencz, Amnon Shashua</i>	
Intelligent Collaborative Tracking by Mining Auxiliary Objects.....	672
<i>Ming Yang, YingWu, Shihong Lao</i>	
Counting Crowded Moving Objects	680
<i>Vincent Rabaud, Serge Belongie</i>	

Automatic Kinematic Chain Building from Feature Trajectories of Articulated Objects	687
<i>Jingyu Yan, Marc Pollefeys</i>	
Differential Tracking based on Spatial-Appearance Model (SAM)	695
<i>Ting Yu, Ying Wu</i>	
Covariance Tracking using Model Update Based on Lie Algebra	703
<i>Fatih Porikli, Oncel Tuzel, Peter Meer</i>	
A New Deformable Model for Boundary Tracking in Cardiac MRI and Its Application to the Detection of Intra-Ventricular Dyssynchrony	711
<i>Paulo F. U. Gotardo, KimL.Boyer, Joel Saltz, Subha V. Raman</i>	
Robust People Tracking with Global Trajectory Optimization	719
<i>Jerome Berclaz, Francois Fleuret, Pascal Fua</i>	
Dynamic Appearance Modeling for Human Tracking	726
<i>Hwasup Lim, Vlad I. Morariu, Octavia I. Camps, Mario Sznaiar</i>	
An Adaptive Appearance Model Approach for Model-based Articulated Object Tracking	733
<i>Alexandru O. Balan, Michael J. Black</i>	
Gesture Recognition using Hidden Markov Models from Fragmented Observations	741
<i>Ruiduo Yang, Sudeep Sarkar</i>	
Tracking of the Articulated Upper Body on Multi-View Stereo Image Sequences	749
<i>Julius Ziegler, Kai Nickel, Rainer Stiefelhagen</i>	
Regression-based Hand Pose Estimation from Multiple Cameras	757
<i>Teofilo E. de Campos, David W. Murray</i>	
A Modular Approach to the Analysis and Evaluation of Particle Filters for Figure Tracking	765
<i>Ping Wang, James M. Rehg</i>	
Robust Fragments-based Tracking using the Integral Histogram	773
<i>Amit Adam, Ehud Rivlin, Ilan Shimshoni</i>	
Robust Visual Tracking Using Case-Based Reasoning with Confidence	781
<i>Zhiwei Zhu, Wenhui Liao, Qiang Ji</i>	

POSTER SESSION 4: MATCHING AND REGISTRATION

Learning a Manifold-constrained Map between Image Sets: Applications to Matching and Pose Estimation	789
<i>Jihun Ham, Ikkjin Ahn, Daniel Lee</i>	
Non-rigid Image Registration Using Geometric Features and Local Salient Region Features	797
<i>Jinzhong Yang, James P. Williams, Yiyong Sun, Rick S. Blum, Chenyang Xu</i>	
Shape Representation based on Integral Kernels: Application to Image Matching and Segmentation	805
<i>Byung-Woo Hong, Emmanuel Prados, Stefano Soatto, Luminita Vese</i>	
Neighborhood Aided Implicit Active Contours	813
<i>Huafeng Liu, Yunmei Chen, Wufan Chen, Pengcheng Shi</i>	
An Intensity-augmented Ordinal Measure for Visual Correspondence	821
<i>Anurag Mittal, Visvanathan Ramesh</i>	
Image Comparison by Compound Disjoint Information	829
<i>Zhaohui Sun, Anthony Hoogs</i>	

Multi-Resolution Spin-Images	835
<i>H. Quynh Dinh, Steven Kropac</i>	
Robust Tracking and Stereo Matching under Variable Illumination	843
<i>Jingdan Zhang, Leonard McMillan, Jingyi Yu</i>	
Geometric Hashing with Local Affine Frames	851
<i>Ondrej Chum, Jiri Matas</i>	
Hierarchical Procrustes Matching for Shape Retrieval	857
<i>Graham McNeill, Sethu Vijayakumar</i>	

ORAL SESSION 5: LOW LEVEL ANALYSIS

Image Denoising Via Learned Dictionaries and Sparse Representation	865
<i>Michael Elad, Michal Aharon</i>	
Noise Estimation from a Single Image	871
<i>Ce Liu, William T. Freeman, Richard Szeliski, Sing Bing Kang</i>	
Learning Patch Dependencies for Improved Pose Mismatched Face Verification	879
<i>Simon Lucey, Tsuhan Chen</i>	
Continuous Super-Resolution for Recovery of 1-D Image Features: Algorithm and Performance Modeling	886
<i>Frederic Champagnat, Caroline Kulcsar, Guy Le Besnerais</i>	

ORAL SESSION 6: RECOGNITION

Extracting Subimages of an Unknown Category from a Set of Images	894
<i>Sinisa Todorovic, Narendra Ahuja</i>	
Augmenting Shape with Appearance in Vehicle Category Recognition	902
<i>Ozge C. Ozcanli, Amir Tamrakar, Benjamin B. Kimia, Joseph L. Mundy</i>	
Composite Templates for Cloth Modeling and Sketching	910
<i>Hong Chen, Zi Jian Xu, Zi Qiang Liu, Song Chun Zhu</i>	
Tracking of Multiple, Partially Occluded Humans based on Static Body Part Detection	918
<i>Bo Wu, Ram Nevatia</i>	
The Function Space of an Activity	926
<i>Ashok Veeraraghavan, Rama Chellappa, Amit K. Roy-Chowdhury</i>	

POSTER SESSION 5: SEGMENTATION

Shape Guided Object Segmentation	934
<i>Eran Borenstein, Jitendra Malik</i>	
Shape-Based Approach to Robust Image Segmentation using Kernel PCA	942
<i>Samuel Dambreville, Yogesh Rathi, Allen Tannenbaum</i>	
Improved Watershed Segmentation using Water Diffusion and Local Shape Priors	950
<i>Hieu T. Nguyen, Qiang Ji</i>	
Cosegmentation of Image Pairs by Histogram Matching Incorporating a Global Constraint into MRFs	958
<i>Carsten Rother, Vladimir Kolmogorov, Tom Minka, Andrew Blake</i>	

Weakly Supervised Top-down Image Segmentation	966
<i>Manuela Vasconcelos, Gustavo Carneiro, Nuno Vasconcelos</i>	
Real-Time Semi-Automatic Segmentation Using a Bayesian Network	972
<i>Eric N. Mortensen, Jin Jia</i>	
Segmentation by Level Sets and Symmetry	980
<i>Tammy Riklin-Raviv, Nahum Kiryati, Nir Sochen</i>	
Active Graph Cuts	988
<i>Olivier Juan, Yuri Boykov</i>	
Globally Optimal Grouping for Symmetric Boundaries	995
<i>Joachim S. Stahl, Song Wang</i>	
A Geodesic Active Contour Framework for Finding Glass	1003
<i>Kenton McHenry, Jean Ponce</i>	
Solving Markov Random Fields using Second Order Cone Programming Relaxations	1010
<i>M.Pawan Kumar, P.H.S. Torr, A. Zisserman</i>	
Graph Partitioning by Spectral Rounding: Applications in Image Segmentation and Clustering	1018
<i>David A. Tolliver, Gary L. Miller</i>	
MRF's for MRI's: Bayesian Reconstruction of MR Images via Graph Cuts	1026
<i>Ashish Raj, Gurmeet Singh, Ramin Zabih</i>	
Scale Variant Image Pyramids	1034
<i>Joshua Gluckman</i>	
Control Theory and Fast Marching Techniques for Brain Connectivity Mapping	1041
<i>Emmanuel Prados, Christophe Lenglet, Jean-Philippe Pons, Nicolas Wotawa, Rachid Deriche, Olivier Faugeras, Stefano Soatto</i>	
Vessel Crawlers: 3D Physically-based Deformable Organisms for Vasculature Segmentation and Analysis	1049
<i>Chris McIntosh, Ghassan Hamarneh</i>	
On Manifold Structure of Cardiac MRI Data: Application to Segmentation	1057
<i>Qilong Zhang, Richard Souvenir, Robert Pless</i>	
Fast Variational Segmentation using Partial Extremal Initialization	1064
<i>Jan Erik Solem, Niels Chr. Overgaard, Markus Persson, Anders Heyden</i>	
Integration of Top-down and Bottom-up Information for Image Labeling	1071
<i>Takahiro Toyoda, Keisuke Tagami, Osamu Hasegawa</i>	
Statistical Analysis of Local 3D Structure in 2D Images	1079
<i>Sinan Kalkan</i>	
An Integrated Segmentation and Classification Approach Applied to Multiple Sclerosis Analysis	1087
<i>Ayelet Akselrod-Ballin, Meirav Galun, Moshe John Gomori, Massimo Filippi, Paula Valsasina, Ronen Basri, Achi Brandt</i>	
Model Order Selection and Cue Combination for Image Segmentation	1095
<i>Andrew Rabinovich, Tilman Lange, Joachim M. Buhmann, Serge Belongie</i>	
Meta-Evaluation of Image Segmentation Using Machine Learning	1103
<i>Hui Zhang, Sharath Cholleti, Sally A. Goldman, Jason E. Fritts</i>	
Image-Segmentation Evaluation From the Perspective of Salient Object Extraction	1111
<i>Feng Ge, Song Wang, Tiecheng Liu</i>	

Comparing Belief Propagation and Graph Cuts for Novelty Detection	1119
<i>Shyjan Mahamud</i>	
Acceleration Strategies for Gaussian Mean-Shift Image Segmentation	1125
<i>Miguel A. Carreira-Perpinan</i>	
Nonlinear Mean Shift for Clustering over Analytic Manifolds	1133
<i>Raghav Subbarao, Peter Meer</i>	
Dynamics Based Robust Motion Segmentation	1141
<i>Roberto Lubliner, Mario Sznajder, Octavia Camps</i>	

POSTER SESSION 6: GEOMETRY

Reconstruction with Interval Constraints Propagation	1148
<i>Michela Farenzena, Andrea Fusiello, Agostino Dovier</i>	
Non-Rigid Metric Shape and Motion Recovery from Uncalibrated Images Using Priors	1154
<i>Alessio Del Bue, Xavier Llado, Lourdes Agapito</i>	
Uncertainty Models in Quasiconvex Optimization for Geometric Reconstruction	1162
<i>Qifa Ke, Takeo Kanade</i>	
The Registration Problem Revisited: Optimal Solutions From Points, Lines and Planes	1169
<i>Carl Olsson, Fredrik Kahl, Magnus Oskarsson</i>	
Euclidean Structure from Confocal Conics: Theory and Application to Camera Calibration	1177
<i>Pierre Gurdjos, Jun-Sik Kim, In-So Kweon</i>	
Are Two Rotational Flows Sufficient to Calibrate a Smooth Non-parametric Sensor?	1185
<i>Etienne Grossmann, Eun-Joo Lee, Peter Hislop, David Nistér, Henrik Stewénus</i>	
Recovering Camera Motion Using L-infinity Minimization	1193
<i>Kristy Sim, Richard Hartley</i>	
Motion Estimation from Spheres	1201
<i>Guoqiang Zhang, Kwan-Yee K. Wong</i>	
Real-Time Visual SLAM with Resilience to Erratic Motion	1207
<i>Mark Pupilli, Andrew Calway</i>	
Homography from Coplanar Ellipses with Application to Forensic Blood Splatter Reconstruction	1213
<i>John Wright, Andrew Wagner, Shankar Rao, Yi Ma</i>	
Epipolar Geometry of Central Projection Systems Using Veronese Maps	1221
<i>Joao P. Barreto, Kostas Daniilidis</i>	
“How Many Planar Viewing Surfaces are there in Noncentral Catadioptric Cameras?” Towards Single-image Localization of Space Lines	1229
<i>Vincenzo Caglioti, Simone Gasparini</i>	
Recursive Recovery of Position and Orientation from Stereo Image Sequences without Three-Dimensional Structures	1237
<i>Ying Kin Yu, Kin Hong Wong, Siu Hang Or, Michael Ming, Yuen Chang</i>	

ORAL SESSION 7: MATCHING AND REGISTRATION

Groupwise Point Pattern Registration using a Novel CDF-based Jensen-Shannon Divergence	1244
<i>Fei Wang, Baba C. Vemuri, Anand Rangarajan</i>	
An Efficiency Criterion for 2D Shape Model Selection	1250
<i>Kathryn Leonard</i>	
Fully Automatic Registration of 3D Point Clouds	1258
<i>Ameesh Makadia, Alexander Patterson IV, Kostas Daniilidis</i>	
3D Alignment of Face in a Single Image	1266
<i>Lie Gu, Takeo Kanade</i>	
Accurate Face Alignment using Shape Constrained Markov Network	1274
<i>Lin Liang, Fang Wen, Ying-Qing Xu, Xiaoou Tang, Heung-Yeung Shum</i>	

ORAL SESSION 8: GRAPHICS AND IMAGE SYNTHESIS

Clustering Appearance for Scene Analysis	1282
<i>Sanjeev J. Koppal, Srinivasa G. Narasimhan</i>	
Space-Time Video Montage	1290
<i>Hong-Wen Kang, Yasuyuki Matsushita, Xiaoou Tang, Xue-Quan Chen</i>	
Fast Compact City Modeling for Navigation Pre-Visualization	1298
<i>Nico Cornelis, Kurt Cornelis, Luc Van Gool</i>	
Single View Reconstruction of Curved Surfaces	1304
<i>Mukta Prasad, Andrew Zisserman, Andrew Fitzgibbon</i>	

POSTER SESSION 7: RECOGNITION

Recognize High Resolution Faces: From Macrocosm to Microcosm	1312
<i>Dahua Lin, Xiaoou Tang</i>	
Local Steerable Phase (LSP) Feature for Face Representation and Recognition	1320
<i>Zhang Xiaoxun, Jia Yunde</i>	
Fusion of Summation Invariants in 3D Human Face Recognition	1326
<i>Wei-Yang Lin, Kin-Chung Wong, Nigel Boston, Yu Hen Hu</i>	
Deformation Modeling for Robust 3D Face Matching	1334
<i>Xiaoguang Lu, Anil K. Jain</i>	
Locally Linear Models on Face Appearance Manifolds with Application to Dual-Subspace Based Classification	1341
<i>Wei Fan, Dit-Yan Yeung</i>	
3D Face Recognition Using 3D Alignment for PCA	1348
<i>Trina Russ, Chris Boehnen, Tanya Peters</i>	
3D Facial Expression Recognition Based on Primitive Surface Feature Distribution	1356
<i>Jun Wang, Lijun Yin, Xiaozhou Wei, Yi Sun</i>	
Face Recognition using 2.5D Shape Information	1364
<i>William A. P. Smith, Edwin R. Hancock</i>	

Joint Boosting Feature Selection for Robust Face Recognition	1372
<i>Rong Xiao, Wujun Li, Yuandong Tian, Xiaoou Tang</i>	
A Generalized EM Approach for 3D Model Based Face Recognition under Occlusions	1380
<i>Michael De Smet, Rik Fransens, Luc Van Gool</i>	
Learning Exemplar-Based Categorization for the Detection of Multi-View Multi-Pose Objects.....	1388
<i>Ying Shan, Feng Han, Harpreet S. Sawhney, Rakesh Kumar</i>	
Optimal Pose for Face Recognition	1396
<i>Xiaoming Liu, Tsuhan Chen, Jens Rittscher</i>	
A Visual Vocabulary for Flower Classification	1404
<i>Maria-Elena Nilsback, Andrew Zisserman</i>	
Searching Off-line Arabic Documents.....	1412
<i>Jim Chan, Celal Ziftci, David Forsyth</i>	
Animals on the Web	1420
<i>Tamara L. Berg, David A. Forsyth</i>	
Aligning ASL for Statistical Translation using a Discriminative Word Model	1428
<i>Ali Farhadi, David Forsyth</i>	
A Graph Based Approach for Naming Faces in News Photos.....	1434
<i>Derya Ozkan, Pinar Duygulu</i>	
AnnoSearch: Image Auto-Annotation by Search	1440
<i>Xin-Jing Wang, Lei Zhang, Feng Jing, Wei-Ying Ma</i>	
Fast Human Detection Using a Cascade of Histograms of Oriented Gradients	1448
<i>Qiang Zhu, Shai Avidan, Mei-Chen Yeh, Kwang-Ting Cheng</i>	
Real-time Hand Pose Recognition Using Low-Resolution Depth Images	1456
<i>Zhenyao Mo, Ulrich Neumann</i>	
A Detection Technique for Degraded Face Images	1463
<i>Shinji Hayashi, Osamu Hasegawa</i>	
Automatic Cast Listing in Feature-Length Films with Anisotropic Manifold Space.....	1470
<i>Ognjen Arandjelovic, Roberto Cipolla</i>	
Hidden Conditional Random Fields for Gesture Recognition	1478
<i>Sy Bor Wang, Ariadna Quattoni, Louis-Philippe Morency, David Demirdjian, Trevor Darrell</i>	
Person Reidentification Using Spatiotemporal Appearance	1485
<i>Niloofar Gheissari, Thomas B. Sebastian, Peter H. Tu, Jens Rittscher, Richard Hartley</i>	
Body Localization in Still Images Using Hierarchical Models and Hybrid Search.....	1493
<i>Jiayong Zhang, Jiebo Luo, Robert Collins, Yanxi Liu</i>	
Probabilistic 3D Polyp Detection in CT Images: The Role of Sample Alignment	1501
<i>Zhuowen Tu, Xiang Sean Zhou, Adrian Barbu, Luca Bogoni, Dorin Comaniciu</i>	
Modeling and Classifying Breast Tissue Density in Mammograms.....	1509
<i>Anna Bosch, Xavier Munoz, Arnau Oliver, Joan Martí</i>	
Image-based Multiclass Boosting and Echocardiographic View Classification	1516
<i>S. Kevin Zhou, J.H. Park, B. Georgescu, C. Simopoulos, J. Otsuki, D. Comaniciu</i>	
Performance Modeling and Prediction of Face Recognition Systems	1523
<i>Peng Wang, Qiang Ji</i>	
Multiple Face Model of Hybrid Fourier Feature for Large Face Image Set	1531
<i>Wonjun Hwang, Gyu-tae Park, Jongha Lee</i>	

Multi-Aspect Detection of Articulated Objects	1539
<i>Edgar Seemann, Bastian Leibe, Bernt Schiele</i>	
Towards Multi-View Object Class Detection	1546
<i>Alexander Thomas, Alexander Thomas, Bastian Leibe, Tinne Tuytelaars, Bernt Schiele, Luc Van Gool</i>	
Using Dependent Regions for Object Categorization in a Generative Framework	1554
<i>Gang Wang, Ye Zhang, Li Fei-Fei</i>	
Using Multiple Segmentations to Discover Objects and their Extent in Image Collections	1562
<i>Bryan C. Russell, Alexei A. Efros, Josef Sivic, William T. Freeman, Andrew Zisserman</i>	

POSTER SESSION 8: ACTION RECOGNITION

Joint Recognition of Complex Events and Track Matching	1570
<i>Michael T Chan, Anthony Hoogs, Rahul Bhotika, Amitha Perera, John Schmiederer, Gianfranco Doretto</i>	
Inferring Facial Action Units with Causal Relations	1578
<i>Yan Tong, Wenhui Liao, Qiang Ji</i>	
Learning Temporal Sequence Model from Partially Labeled Data	1586
<i>Yifan Shi, Aaron Bobick, Irfan Essa</i>	
Automatic Discovery of Action Taxonomies from Multiple Views	1594
<i>Daniel Weinland, Remi Ronfard, Edmond Boyer</i>	
Successive Convex Matching for Action Detection	1601
<i>Hao Jiang, Mark S. Drew, Ze-Nian Li</i>	
Unsupervised Discovery of Action Classes	1609
<i>Yang Wang, Hao Jiang, Mark S. Drew, Ze-Nian Li, Greg Mori</i>	
Activity Analysis in Microtubule Videos by Mixture of Hidden Markov Models	1617
<i>Alphan Altinok, Motaz El-Saban, Austin J. Peck, Leslie Wilson, Stuart C. Feinstein, B. S. Manjunath, Kenneth Rose</i>	
Human Carrying Status in Visual Surveillance	1625
<i>Dacheng Tao, Xuelong Li, Xindong Wu, Stephen J. Maybank</i>	
Classifying Human Dynamics Without Contact Forces	1633
<i>Alessandro Bissacco, Stefano Soatto</i>	
AdaBoost.MRF: Boosted Markov Random Forests and Application to Multilevel Activity Recognition	1641
<i>Tran The Truyen, Dinh Q. Phung, Hung H. Bui, Svetha Venkatesh</i>	
Parameterized Duration Modeling for Switching Linear Dynamic Systems	1649
<i>Sang Min Oh, James M. Rehg, Frank Dellaert</i>	
Using Bilinear Models for View-invariant Action and Identity Recognition	1656
<i>Fabio Cuzzolin</i>	
Recognition of Composite Human Activities through Context-Free Grammar based Representation	1664
<i>M. S. Ryoo, J. K. Aggarwal</i>	

ORAL SESSION 9: LEARNING

Correlated Label Propagation with Application to Multi-label Learning	1672
<i>Feng Kang, Rong Jin, Rahul Sukthankar</i>	
Pursuing Informative Projection on Grassmann Manifold	1680
<i>Dahua Lin, Shuicheng Yan, Xiaoou Tang</i>	
Dimensionality Reduction by Learning an Invariant Mapping	1688
<i>Raia Hadsell, Sumit Chopra, Yann LeCun</i>	
Learning Joint Top-Down and Bottom-up Processes for 3D Visual Inference	1696
<i>Cristian Sminchisescu, Atul Kanaujia, Dimitris Metaxas</i>	

ORAL SESSION 10: MATCHING AND REGISTRATION

Local Features, All Grown Up	1704
<i>Andrea Vedaldi, Stefano Soatto</i>	
BoostMotion: Boosting a Discriminative Similarity Function for Motion Estimation	1712
<i>Shaohua Kevin Zhou, Jie Shao, Bogdan Georgescu, Dorin Comaniciu</i>	
A New Method of Probability Density Estimation with Application to Mutual Information Based Image Registration	1720
<i>Ajit Rajwade, Arunava Banerjee, Anand Rangarajan</i>	
Nonparametric Priors on the Space of Joint Intensity Distributions for Non-Rigid Multi-Modal Image Registration	1728
<i>Daniel Cremers, Christoph Guetter, Chenyang Xu</i>	
Automatic Landmark Tracking and its Application to the Optimization of Brain Conformal Mapping	1735
<i>Lok Ming Lui, Yalin Wang, Tony F. Chan, Paul M. Thompson</i>	

POSTER SESSION 9: LOW LEVEL AND PHOTOMETRIC ANALYSIS

Visible Surface Reconstruction from Normals with Discontinuity Consideration	1741
<i>Tai-Pang Wu, Chi-Keung Tang</i>	
Reciprocal Image Features for Uncalibrated Helmholtz Stereopsis	1749
<i>Todd Zickler</i>	
Combining Cues: Shape from Shading and Texture	1757
<i>Ryan White, David A. Forsyth</i>	
A New Formulation for Shape from Shading for Non-Lambertian Surfaces	1765
<i>Abdelrehim H. Ahmed, Aly A. Farag</i>	
Mesostructure from Specularity	1773
<i>Tongbo Chen, Michael Goesele, Hans-Peter Seidel</i>	
Spatial Reflectance Recovery under Complex Illumination from Sparse Images	1781
<i>Li Shen, Haruo Takemura</i>	
Shape from Shading: Recognizing the Mountains through a Global View	1787
<i>Qihui Zhu, Jianbo Shi</i>	
Reconstruction in the Round using Photometric Normals and Silhouettes	1795
<i>George Vogiatzis, Carlos Hernandez, Roberto Cipolla</i>	

Separation of Highlight Reflections on Textured Surfaces	1803
<i>Ping Tan, Stephen Lin, Long Quan</i>	
Instant 3Descatter	1809
<i>Tali Treibitz, Yoav Y. Schechner</i>	
Specular Flow and the Recovery of Surface Structure	1817
<i>Stefan Roth, Michael J. Black</i>	
A Design Principle for Coarse-to-Fine Classification	1825
<i>Sachin Gangaputra, Donald Geman</i>	
A Multi-Channel Algorithm for Edge Detection Under Varying Lighting Conditions	1833
<i>Wei Xu, Michael Jenkin, Yves Lesperance</i>	
Bottom-Up & Top-down Object Detection using Primal Sketch Features and Graphical Models	1841
<i>Iasonas Kokkinos, Petros Maragos, Alan Yuille</i>	
The Bottleneck Geodesic: Computing Pixel Affinity	1849
<i>Ido Omer, Michael Werman</i>	
Motion Patterns: High-Level Representation of Natural Video Sequences	1856
<i>Duangmanee Putthividhya, Te-Won Lee</i>	
A Framework for Feature Selection for Background Subtraction	1864
<i>Toufiq Parag, Ahmed Elgammal, Anurag Mittal</i>	
Image Denoising with Shrinkage and Redundant Representations	1872
<i>Michael Elad, Boaz Matalon</i>	
A Projective Invariant for Textures	1880
<i>Yong Xu, Hui Ji, Cornelia Fermuller</i>	
A Shape Representation for Planar Curves by Shape Signature Harmonic Embedding	1888
<i>Sang-Mook Lee, A. Lynn Abbott, Neil A. Clark, Philip A. Araman</i>	
Perceptually-Inspired and Edge-Directed Color Image Super-Resolution	1896
<i>Yu-Wing Tai, Wai-Shun Tong, Chi-Keung Tang</i>	
Image Pre-conditioning for Out-of-Focus Projector Blur	1904
<i>Michael S. Brown, Peng Song, Tat-Jen Cham</i>	
Supervised Learning of Edges and Object Boundaries	1912
<i>Piotr Dollar, Zhuowen Tu, Serge Belongie</i>	
Multiscale Nonlinear Diffusion and Shock Filter for Ultrasound Image Enhancement	1920
<i>Fan Zhang, Yang Mo Yoo, Lichen Zhang, Liang Mong Koh, Yongmin Kim</i>	
CSIFT: A SIFT Descriptor with Color Invariant Characteristics	1926
<i>Alaa E. Abdel-Hakim, Aly A. Farag</i>	
Blind Haze Separation	1932
<i>Sarit Shwartz, Einav Namer, Yoav Y. Schechner</i>	
Estimating Intrinsic Component Images using Non-Linear Regression	1940
<i>Marshall F. Tappen, Edward H. Adelson, William T. Freeman</i>	
Color Subspaces as Photometric Invariants	1948
<i>Todd Zickler, Satya P. Mallick, David J. Kriegman, Peter N. Belhumeur</i>	

POSTER SESSION 10: RECOGNITION

Graph Laplacian Kernels for Object Classification from a Single Example	1956
<i>Hong Chang, Dit-Yan Yeung</i>	
A Generative-Discriminative Hybrid Method for Multi-View Object Detection	1962
<i>Dong-Qing Zhang, Shih-Fu Chang</i>	
Shape Topics: A Compact Representation and New Algorithms for 3D Partial Shape Retrieval	1970
<i>Yi Liu, Hongbin Zha, Hong Qin</i>	
Discriminative Object Class Models of Appearance and Shape by Correlatons	1978
<i>S. Savarese, J. Winn, A. Criminisi</i>	
Measure Locally, Reason Globally: Occlusion-sensitive Articulated Pose Estimation	1986
<i>Leonid Sigal</i>	
An Integrated Model of Top-down and Bottom-up Attention for Optimizing Detection Speed	1994
<i>Vidhya Navalpakkam, Laurent Itti</i>	
Region-based Image Annotation using Asymmetrical Support Vector Machine-based Multiple-Instance Learning	2002
<i>Changbo Yang, Ming Dong, Jing Hua</i>	
Learning Object Shape: From Drawings to Images	2009
<i>Gal Elidan, Jeremy Heitz, Daphne Koller</i>	
Learning Distance Metrics with Contextual Constraints for Image Retrieval	2017
<i>Steven C. H. Hoi, Wei Liu, Michael R. Lyu, Wei-Ying Ma</i>	
Satellite Features for the Classification of Visually Similar Classes	2024
<i>Boris Epshtein, Shimon Ullman</i>	
Affine Invariance Revisited	2032
<i>Evgeni Begelfor, Michael Werman</i>	
Incorporating the Boltzmann Prior in Object Detection Using SVM	2040
<i>Margarita Osadchy, Daniel Keren</i>	
Using Language to Drive the Perceptual Grouping of Local Image Features	2047
<i>Michael Jamieson, Sven Dickinson, Suzanne Stevenson, Sven Wachsmuth</i>	
A Simple Bayesian Framework for Content-Based Image Retrieval	2055
<i>Katherine A. Heller, Zoubin Ghahramani</i>	
Spatial Weighting for Bag-of-Features	2063
<i>Marcin Marsza-ek, Cordelia Schmid</i>	
SVM-KNN: Discriminative Nearest Neighbor Classification for Visual Category Recognition	2071
<i>Hao Zhang, Alexander C. Berg, Michael Maire, Jitendra Malik</i>	

ORAL SESSION 11: RECOGNITION

Putting Objects in Perspective	2079
<i>Derek Hoiem, Alexei A. Efros, Martial Hebert</i>	
Context and Hierarchy in a Probabilistic Image Model	2087
<i>Ya Jin, Stuart Geman</i>	

Perception Strategies in Hierarchical Vision Systems	2095
<i>Lior Wolf, Stan Bileschi, Ethan Meyers</i>	
Scalable Recognition with a Vocabulary Tree	2103
<i>David Nister, Henrik Stewenius</i>	
Beyond Bags of Features: Spatial Pyramid Matching for Recognizing Natural Scene Categories	2111
<i>Svetlana Lazebnik, Cordelia Schmid, Jean Ponce</i>	

ORAL SESSION 12: TRACKING AND VIDEO ANALYSIS

Tunable Kernels for Tracking	2119
<i>Vasu Parameswaran, Visvanathan Ramesh, Imad Zoghiani</i>	
Multi-Target Tracking – Linking Identities using Bayesian Network Inference	2127
<i>Peter Nillius, Josephine Sullivan, Stefan Carlsson</i>	
Particle Video: Long-Range Motion Estimation using Point Trajectories	2135
<i>Peter Sand, Seth Teller</i>	
Multi-Camera Scene Flow by Tracking 3-D Points and Surfels	2143
<i>Frederic Devernay, Diana Mateus, Matthieu Guilbert</i>	

POSTER SESSION 11: STEREO AND 3D RECONSTRUCTION

3D Building Detection and Modeling from Aerial LIDAR Data	2151
<i>Vivek Verma, Rakesh Kumar, Stephen Hsu</i>	
Three-dimensional Volume Reconstruction Based on Trajectory Fusion from Confocal Laser Scanning Microscope Images	2159
<i>Sang-Chul Lee, Peter Bajcsy</i>	
Landmark-based Geodesic Computation for Heuristically Driven Path Planning	2167
<i>Gabriel Peyre, Laurent D. Cohen</i>	
Surface Reconstruction of Bone from X-ray Images and Point Distribution Model Incorporating a Novel Method for 2D-3D Correspondence	2175
<i>Guoyan Zheng, Lutz-Peter Nolte</i>	
Element-Free Elastic Models for Volume Fitting and Capture	2183
<i>Jaeil Choi, Andrzej Szymczak, Greg Turk, Irfan Essa</i>	
Structure and View Estimation for Tomographic Reconstruction: A Bayesian Approach	2191
<i>Satya P. Mallick, Sameer Agarwal, David J. Kriegman, Serge J. Belongie, Bridget Carragher, Clinton S. Potter</i>	
3D Reconstruction of Background and Objects Moving on Ground Plane Viewed from a Moving Camera	2199
<i>Chang Yuan, Gérard Medioni</i>	
SDG Cut: 3D Reconstruction of Non-lambertian Objects Using Graph Cuts on Surface Distance Grid	2207
<i>Tianli Yu, Narendra Ahuja, Wei-Chao Chen</i>	
3-D Shape Reconstruction of Retinal Fundus	2215
<i>Tae Eun Choe, Isaac Cohen, Gérard Medioni</i>	
Shape from Dynamic Texture for Planes	2223
<i>Yaser Sheikh, Niels Haering, Mubarak Shah</i>	

Multiview Geometry for Texture Mapping 2D Images Onto 3D Range Data	2231
<i>Lingyun Liu, Ioannis Stamos, Gene Yu, George Wolberg, Siavash Zokai</i>	
Edge Suppression by Gradient Field Transformation using Cross-Projection Tensors	2239
<i>Amit Agrawal, Ramesh Raskar, Rama Chellappa</i>	
Vertical Parallax from Moving Shadows	2247
<i>Yaron Caspi, Michael Werman</i>	
A Refractive Camera for Acquiring Stereo and Super-resolution Images	2254
<i>Chunyu Gao, Narendra Ahuja</i>	
A Planar Light Probe	2262
<i>Neil G. Alldrin, David J. Kriegman</i>	
Reconstructing Occluded Surfaces using Synthetic Apertures: Stereo, Focus and Robust Measures	2269
<i>Vaibhav Vaish, Richard Szeliski, C. L. Zitnick, Sing Bing Kang, Marc Levoy</i>	
The Panum Proxy Algorithm for Dense Stereo Matching over a Volume of Interest	2277
<i>A. Agarwal, A. Blake</i>	
Stereo Matching with Color-Weighted Correlation, Hierarchical Belief Propagation and Occlusion Handling	2285
<i>Qingxiong Yang, Liang Wang, Ruigang Yang, Henrik Stewenius, David Nister</i>	
Surface Geometric Constraints for Stereo in Belief Propagation	2293
<i>Gang Li, Steven W. Zucker</i>	
Binocular Stereo Dense Matching in the Presence of Specular Reflections	2301
<i>Wei Zhou, Chandra Kambhamettu</i>	
Stereo Matching with Symmetric Cost Functions	2309
<i>Kuk-Jin Yoon, In So Kweon</i>	
Region-Tree Based Stereo Using Dynamic Programming Optimization	2316
<i>Cheng Lei, Jason Selzer, Yee-Hong Yang</i>	
Stereo Vision in Structured Environments by Consistent Semi-Global Matching	2324
<i>Heiko Hirschmuller</i>	
Combined Depth and Outlier Estimation in Multi-View Stereo	2332
<i>Christoph Strecha, Rik Fransens, Luc Van Gool</i>	
Multi-View Stereo Revisited	2340
<i>Michael Goesele, Brian Curless, Steven M. Seitz</i>	
Depth from Familiar Objects: A Hierarchical Model for 3D Scenes	2348
<i>Erik B. Sudderth, Antonio Torralba, William T. Freeman, Alan S. Willsky</i>	
A Dynamic Bayesian Network Model for Autonomous 3D Reconstruction from a Single Indoor Image	2356
<i>Erick Delage, Honglak Lee, Andrew Y. Ng</i>	

POSTER SESSION 12: MATCHING AND REGISTRATION

Simultaneous Registration and Modeling of Deformable Shapes	2364
<i>Jing Xiao, Bogdan Georgescu, Xiang Zhou, Dorin Comaniciu, Takeo Kanade</i>	
Real-time Image-based Guidance Method for Lung-Cancer Assessment	2372
<i>Lav Rai, Scott A. Merritt, William E. Higgins</i>	

Object Pose Detection in Range Scan Data	2380
<i>Jim Rodgers, Dragomir Anguelov, Hoi-Cheung Pang, Daphne Koller</i>	
3D Surface Matching and Recognition Using Conformal Geometry	2388
<i>Sen Wang, Yang Wang, Miao Jin, Xianfeng Gu, Dimitris Samaras</i>	
Wire Structure Pattern Extraction and Tracking From X-Ray Images of composite Mechanisms	2396
<i>D. Tschumperle, J. Fadili, Y. Bentolila</i>	
Scale-driven Iterative Optimization for Brain Extraction and Registration	2402
<i>Terrence Chen, Thomas S. Huang</i>	
Coupled Bayesian Framework for Dual Energy Image Registration	2410
<i>Hao Wu, Yunqiang Chen, Tong Fang</i>	
Robust AAM Fitting by Fusion of Images and Disparity Data	2418
<i>Joerg Liebelt, Jing Xiao, Jie Yang</i>	
Piecewise Image Registration in the Presence of Multiple Large Motions	2426
<i>Pravin Bhat, Ke Colin Zheng, Noah Snavely, Aseem Agarwala, Maneesh Agrawala, Michael F. Cohen, Brian Curless</i>	
Seamless Image Stitching of Scenes with Large Motions and Exposure Differences	2433
<i>Ashley Eden, Matthew Uyttendaele, Richard Szeliski</i>	
Image Matching Using Photometric Information	2441
<i>Michael Kolomenkin, Ilan Shimshoni</i>	

Author Index