

2012 IEEE International Conference on Multimedia and Expo

(ICME 2012)

**Melbourne, Australia
9 – 13 July 2012**

Pages 1-549



**IEEE Catalog Number: CFP12ICM-PRT
ISBN: 978-1-4673-1659-0**

2012 IEEE International Conference on Multimedia and Expo

ICME 2012

Table of Contents

Message from the ICME 2012 General Chairs	xix
Message from the ICME 2012 Technical Program	
Chairs.....	xxi
Organizing Committee.....	xxiii
Steering Committee.....	xxv
Technical Tracks.....	xxvi
Reviewers.....	xxvii
Sponsors.....	xxxv
Keynote Abstracts and Research Overviews.....	xxxvi

OT1: Multimedia Content Analysis, Understanding, and Retrieval I

A Hierarchical Model for Human Interaction Recognition	1
<i>Yu Kong and Yunde Jia</i>	
Social Image Tagging by Mining Sparse Tag Patterns from Auxiliary Data	7
<i>Jie Lin, Junsong Yuan, Ling-Yu Duan, Siwei Luo, and Wen Gao</i>	
Learning Global and Reconfigurable Part-Based Models for Object Detection	13
<i>Xi Song, Tianfu Wu, Yi Xie, and Yunde Jia</i>	
Spiking and Blocking Events Detection and Analysis in Volleyball Videos	19
<i>Chun-Chieh Hsu, Hua-Tsung Chen, Chien-Li Chou, and Suh-Yin Lee</i>	
Recognition of Multiple-Food Images by Detecting Candidate Regions	25
<i>Yuji Matsuda, Hajime Hoashi, and Keiji Yanai</i>	

OT2: Special Session—Online Community

Discovering Social Photo Navigation Patterns	31
<i>Luca Chiarandini, Michele Trevisiol, and Alejandro Jaimes</i>	
Group Recommendation Using External Followee for Social TV	37
<i>Xiaoyan Wang, Lifeng Sun, Zhi Wang, and Da Meng</i>	

Multimodal Location Estimation of Consumer Media: Dealing with Sparse Training Data	43
<i>Jaeyoung Choi, Gerald Friedland, Venkatesan Ekambaram, and Kannan Ramchandran</i>	
Empowering Cross-Domain Internet Media with Real-Time Topic Learning from Social Streams	49
<i>Suman D. Roy, Tao Mei, Wenjun Zeng, and Shipeng Li</i>	
Media Lifecycle and Content Analysis in Social Media Communities	55
<i>Lexing Xie and Hari Sundaram</i>	

OT3: Media Coding and Transcoding I

A Fast and Performance-Maintained Transcoding Method Based on Background Modeling for Surveillance Video	61
<i>Mingchao Geng, Xianguo Zhang, Yonghong Tian, Luhong Liang, and Tiejun Huang</i>	
A Unified Estimation-Theoretic Framework for Error-Resilient Scalable Video Coding	67
<i>Jingning Han, Vinay Melkote, and Kenneth Rose</i>	
Saliency-Cognizant Error Concealment in Loss-Corrupted Streaming Video	73
<i>Hadi Hadizadeh, Ivan V. Bajic, and Gene Cheung</i>	
Impact of Region-of-Interest Video Coding on Perceived Quality in Mobile Video	79
<i>Ivan Himawan, Wei Song, and Dian Tjondronegoro</i>	
Source Distortion Temporal Propagation Model for Motion Compensated Video Coding Optimization	85
<i>Tianwu Yang, Ce Zhu, Xiaojiu Fan, and Qiang Peng</i>	

OT4: 3D Analysis and Scene Synthesis

Multi-perspective Panoramas of Long Scenes	91
<i>Siyuan Fang and Neill Campbell</i>	
Multi-hypothesis Projection-Based Shift Estimation for Sweeping Panorama Reconstruction	97
<i>Tuan Q. Pham and Philip Cox</i>	
Scene Segmentation and Pedestrian Classification from 3-D Range and Intensity Images	103
<i>Xue Wei, Son Lam Phung, and Abdesselam Bouzerdoum</i>	
Depth-Based Disocclusion Filling for Virtual View Synthesis	109
<i>Ilkoo Ahn and Changick Kim</i>	
Virtual View Reconstruction Using Temporal Information	115
<i>Shujie Liu, Philip A. Chou, Cha Zhang, Zhengyou Zhang, and Chang Wen Chen</i>	

OT5: Multimedia Content Analysis, Understanding, and Retrieval II

Regression Based Pose Estimation with Automatic Occlusion Detection and Rectification	121
<i>Ibrahim Radwan, Abhinav Dhall, Jyoti Joshi, and Roland Goecke</i>	
2D Face Alignment and Pose Estimation Based on 3D Facial Models	128
<i>Shen-Chi Chen, Chia-Hsiang Wu, Shih-Yao Lin, and Yi-Ping Hung</i>	
Efficient Tag Mining via Mixture Modeling for Real-Time Search-Based Image Annotation	134
<i>Lican Dai, Xin-Jing Wang, Lei Zhang, and Nenghai Yu</i>	
A Large Scale Experiment for Mood-Based Classification of TV Programmes	140
<i>Jana Eggink and Denise Bland</i>	
Per-Exemplar Fusion Learning for Video Retrieval and Recounting	146
<i>Ilseo Kim, Sangmin Oh, A.G. Amitha Perera, and Chin-Hui Lee</i>	

OT6: Image / Video Processing

Joint Example-Based Depth Map Super-Resolution	152
<i>Yanjie Li, Tianfan Xue, Lifeng Sun, and Jianzhuang Liu</i>	
Spatiotemporal Saliency Detection via Sparse Representation	158
<i>Zhixiang Ren, Shenghua Gao, Deepu Rajan, Liang-Tien Chia, and Yun Huang</i>	
Context-Aware Single Image Rain Removal	164
<i>De-An Huang, Li-Wei Kang, Min-Chun Yang, Chia-Wen Lin, and Yu-Chiang Frank Wang</i>	
From 2D Extrapolation to 1D Interpolation: Content Adaptive Image Bit-Depth Expansion	170
<i>Pengfei Wan, Oscar C. Au, Ketan Tang, Yuanfang Guo, and Lu Fang</i>	
View-Invariant Fall Detection System Based on Silhouette Area and Orientation	176
<i>Behzad Mirmahboub, Shadrokh Samavi, Nader Karimi, and Shahram Shirani</i>	

OT7: Media Streaming

Traffic Reduction for Multiple Users in Multi-view Video Streaming	182
<i>Takuya Fujihashi, Ziyuan Pan, and Takashi Watanabe</i>	
QoS-driven and Fair Downlink Scheduling for Video Streaming over LTE Networks with Deadline and Hard Hand-off	188
<i>Qian Liu, Zixuan Zou, and Chang Wen Chen</i>	
Band Codes: Controlled Complexity Network Coding for Peer-to-Peer Video Streaming	194
<i>Attilio Fiandratti, Valerio Bioglio, Enrico Magli, Marco Grangetto, and Rossano Gaeta</i>	
Random Network Coding for Multimedia Delivery over LTE-Advanced	200
<i>Dejan Vukobratovic, Chadi Khirallah, Vladimir Stankovic, and John Thompson</i>	

A Cross-Layer Video Transmission Scheme with Guaranteed End-to-End QoS over MIMO OFDM Systems	206
<i>Yahui Hu, Guofeng Lv, Song Ci, and Hui Tang</i>	

OT8: Multimedia Security and Privacy

Position-Patch Based Face Hallucination via Locality-Constrained Representation	212
<i>Junjun Jiang, Ruimin Hu, Zhen Han, Tao Lu, and Kebin Huang</i>	
Learning Boltzmann Distance Metric for Face Recognition	218
<i>Truyen Tran, Dinh Q. Phung, and Svetha Venkatesh</i>	
Inter-modality Face Sketch Recognition	224
<i>Hamed Kiani Galoogahi and Terence Sim</i>	
A Pollution Attack to Public-key Watermarking Schemes	230
<i>Yongdong Wu and Robert H. Deng</i>	
Authenticating Image Metadata Elements Using Geolocation Information and Sun Direction Estimation	236
<i>Pravin Kakar and N. Sudha</i>	

Poster Session: I

A Fast and Robust Pedestrian Detection Framework Based on Static and Dynamic Information	242
<i>Tao Xu, Hong Liu, Yueliang Qian, and Zhe Wang</i>	
The Performance of the Speaking Rate Parameter in Emotion Recognition from Speech	248
<i>David Philippou-Hübner, Bogdan Vlasenko, Ronald Böck, and Andreas Wendemuth</i>	
Leaf Shape Descriptor for Tree Species Identification	254
<i>Itheri Yahiaoui, Olfa Mzoughi, and Nozha Boujemaa</i>	
Saliency Aware Locality-preserving Coding for Image Classification	260
<i>Quan Fang, Jitao Sang, and Changsheng Xu</i>	
Noisy Tag Alignment with Image Regions	266
<i>Yang Liu, Jing Liu, Zechao Li, and Hanqing Lu</i>	
Relative Relevance Feedback in Image Retrieval	272
<i>Yuki Sugiyama, Makoto P. Kato, Hiroaki Ohshima, and Katsumi Tanaka</i>	
Modelling Atomic Actions for Activity Classification	278
<i>Jiangen Zhang, Benjamin Yao, and Yongtian Wang</i>	
Learning Detectors from Large Datasets for Object Retrieval in Video Surveillance	284
<i>Rogerio Feris, Sharath Pankanti, and Behjat Siddiquie</i>	
Comparison of Curvelet and Wavelet Texture Features for Content Based Image Retrieval	290
<i>Ishrat Jahan Sumana, Guojun Lu, and Dengsheng Zhang</i>	

Learning Semantic Motion Patterns for Dynamic Scenes by Improved Sparse Topical Coding	296
<i>Wei Fu, Jinqiao Wang, Zechao Li, Hanqing Lu, and Songde Ma</i>	
Warping-Based Novel View Synthesis from a Binocular Image for Autostereoscopic Displays	302
<i>Yu-Hsiang Huang, Tzu-Kuei Huang, Yan-Hsiang Huang, Wei-Chao Chen, and Yung-Yu Chuang</i>	
Depth Template Based 2D-to-3D Video Conversion and Coding System	308
<i>Zhenyu Wang, Ronggang Wang, Shengfu Dong, Wei Wu, Longshe Huo, and Wen Gao</i>	
Stable Pose Estimation with a Motion Model in Real-Time Application	314
<i>Po-Chen Wu, Jui-Hsin Lai, Ja-Ling Wu, and Shao-Yi Chien</i>	
Symmetric Cluster Set Level of Detail for Real-Time Terrain Rendering	320
<i>John Judnich and Nam Ling</i>	
Full Spherical High Dynamic Range Imaging from the Sky	325
<i>Fumio Okura, Masayuki Kanbara, and Naokazu Yokoya</i>	
Face Swapping under Large Pose Variations: A 3D Model Based Approach	333
<i>Yuan Lin, Shengjin Wang, Qian Lin, and Feng Tang</i>	
Foreground-Object-Protected Depth Map Smoothing for DIBR	339
<i>Xiao-han Lu, Fang Wei, and Fang-min Chen</i>	
Activity Recognition from RGB-D Camera with 3D Local Spatio-temporal Features	344
<i>Yue Ming, Qiuqi Ruan, and Alexander G. Hauptmann</i>	
Recognizing Occluded 3D Faces Using an Efficient ICP Variant	350
<i>Peijiang Liu, Yunhong Wang, Di Huang, and Zhaoxiang Zhang</i>	
CO-LDA: A Semi-supervised Approach to Audio-Visual Person Recognition	356
<i>Xuran Zhao, Nicholas Evans, and Jean-Luc Dugelay</i>	
Human Detection Using Wavelet-Based CS-LBP and a Cascade of Random Forests	362
<i>Deok-Yeon Kim, Joon-Young Kwak, Byoung Chul Ko, and Jae-Yeal Nam</i>	
Robust Face Super-Resolution Using Free-Form Deformations for Low-Quality Surveillance Video	368
<i>Tomonari Yoshida, Tomokazu Takahashi, Daisuke Deguchi, Ichiro Ide, and Hiroshi Murase</i>	
Video Copy Detection Using a Soft Cascade of Multimodal Features	374
<i>Menglin Jiang, Yonghong Tian, and Tiejun Huang</i>	
Robust Image Content Authentication with Tamper Location	380
<i>Li Weng, Geert Braeckman, Ann Dooms, Bart Preneel, and Peter Schelkens</i>	
A Distance-Sensitive Attribute Based Cryptosystem for Privacy-Preserving Querying	386
<i>Wei Sun and Shantanu Rane</i>	

Camera Model Identification Using Local Binary Patterns	392
<i>Guanshuo Xu and Yun Qing Shi</i>	
The Extended Co-learning Framework for Robust Object Tracking	398
<i>Chen Gong, Yang Liu, Tianyu Li, Jie Yang, and Xiangjian He</i>	
Distributed Joint Channel and Routing Assignment for Multimedia Wireless Mesh Networks	404
<i>W.L. Warner Hong, Fei Long, Pengye Xia, and S.H. Gary Chan</i>	
Accuracy and Power Consumption Tradeoffs in Video Rate Adaptation for Computer Vision Applications	410
<i>Yousef O. Sharab and Nabil J. Sarhan</i>	
Resource-Distortion Modeling for Video Streaming over Mesh Networks with Priority-Based Packet Scheduling	416
<i>Yongfei Zhang, Yunsheng Zhang, Shiyin Qin, and Zhihai He</i>	

Expert Talk: Time Machine Plenary Session

Expert Talk for Time Machine Session: Dynamic Time Warping New Youth	422
<i>Xavier Anguera</i>	
Expert Talk for Time Machine Session: Designing Calm Technology “...as Refreshing as Taking a Walk in the Woods”	423
<i>John N.A. Brown</i>	
Expert Talk for Time Machine Session: Affective Multimedia Analysis: Introduction, Background and Perspectives	424
<i>Mohammad Soleymani</i>	
Expert Talk for Time Machine Session: High Order Entropy Coding—From Conventional Video Coding to Distributed Video Coding	425
<i>Wenjun Zeng</i>	

OW1: Multimedia Content Analysis, Understanding and Retrieval III

Ontological Inference Framework with Joint Ontology Construction and Learning for Image Understanding	426
<i>Shen-Fu Tsai, Hao Tang, Feng Tang, and Thomas S. Huang</i>	
View Independent Computer Lip-Reading	432
<i>Yuxuan Lan, Barry-John Theobald, and Richard Harvey</i>	
Video Gaze Prediction: Minimizing Perceptual Information Loss	438
<i>Junyong You</i>	
Class-Based Color Bag of Words for Fashion Retrieval	444
<i>Costantino Grana, Daniele Borghesani, and Rita Cucchiara</i>	

OW2: Acoustic Signal Analysis and Processing

Nine Voices, One Artist: Linguistic and Acoustic Analysis	450
<i>Talal Bin Amin, Pina Marziliano, and James Sneed German</i>	
MASK: Robust Local Features for Audio Fingerprinting	455
<i>Xavier Anguera, Antonio Garzon, and Tomasz Adamek</i>	
Creating the Sydney York Morphological and Acoustic Recordings of Ears Database	461
<i>P. Guillou, R. Zolfaghari, N. Epain, A. van Schaik, C.T. Jin, C. Hetherington, J. Thorpe, and A. Tew</i>	
Blind Speech Dereverberation Based on a Statistical Model	467
<i>Xulei Bao, Jie Zhu, and Zhen Huang</i>	

OW3: Media Coding and Transcoding II

SIFT-Based Image Compression	473
<i>Huanjing Yue, Xiaoyan Sun, Feng Wu, and Jingyu Yang</i>	
Lagrange-based Video Encoder Optimisation to Enhance Motion Representation in the Compressed-Domain	479
<i>R.M.T.P. Rajakaruna, W.A.C. Fernando, and J. Calic</i>	
A Model Predictive Controller for Frame-Level Rate Control in Multiview Video Coding	485
<i>Bruno Boessio Vizzotto, Bruno Zatt, Muhammad Shafique, Sergio Bampi, and Jörg Henkel</i>	
An Adaptive Dynamic Scheduling Scheme for H.264/AVC Decoding on Multicore Architecture	491
<i>Dung Vu, Jilong Kuang, and Laxmi Bhuyan</i>	

OW4: Special Session—Perceptual Visual Signal Coding and Display

SSIM-Inspired Perceptual Video Coding for HEVC	497
<i>Abdul Rehman and Zhou Wang</i>	
Perception of Temporal Pumping Artifact in Video Coding with the Hierarchical Prediction Structure	503
<i>Shuai Wan, Yanchao Gong, and Fuzheng Yang</i>	
System Design of Perceptual Quality-Regulable H.264 Video Encoder	509
<i>Guan-Lin Wu, Yu-Jie Fu, and Shao-Yi Chien</i>	
Subjective Crosstalk Assessment Methodology for Auto-stereoscopic Displays	515
<i>Liyuan Xing, Jie Xu, Kim Skildheim, Andrew Perkis, and Touradj Ebrahimi</i>	

Poster Session: II

An Efficient Query-by-Singing/Humming System Based on Fast Fourier Transforms of Note Sequences	521
<i>Wei-Ho Tsai and Yu-Ming Tu</i>	
Unsupervised Mining of Multiple Audiovisually Consistent Clusters for Video Structure Analysis	526
<i>Anh-Phuong Ta and Guillaume Gravier</i>	
A Novel Video-Based Smoke Detection Method Using Image Separation	532
<i>Hongda Tian, Wanqing Li, Lei Wang, and Philip Ogunbona</i>	
Visual Summarization of the Social Image Collection Using Image Attractiveness Learned from Social Behaviors	538
<i>Jin-Woo Jeong, Hyun-Ki Hong, Jee-Uk Heu, Iqbal Qasim, and Dong-Ho Lee</i>	
Real-Time Storyboard Generation for H.264/AVC Compressed Videos	544
<i>Pei Dong, Yong Xia, and David Dagan Feng</i>	
The Image Matting Method with Regularized Matte	550
<i>Junbin Gao, Manoranjan Paul, and Jun Liu</i>	
Radon-based Audio Classification Features	556
<i>Ruben Gonzalez</i>	
Video Copy Detection Using Inclined Video Tomography and Bag-of-Visual-Words	562
<i>Hyun-seok Min, Se Min Kim, Wesley De Neve, and Yong Man Ro</i>	
Image Classification with Group Fusion Sparse Representation	568
<i>Yanan Liu</i>	
Self-Learning of Edge-Preserving Single Image Super-Resolution via Contourlet Transform	574
<i>Min-Chun Yang, De-An Huang, Chih-Yun Tsai, and Yu-Chiang Frank Wang</i>	
Principal Components Analysis-Based Edge-Directed Image Interpolation	580
<i>Bing Yang, Zhiyong Gao, and Xiaoyun Zhang</i>	
A Robust Homography Estimation Method Based on Keypoint Consensus and Appearance Similarity	586
<i>Qing Yan, Yi Xu, and Xiaokang Yang</i>	
Exploiting Image Local and Nonlocal Consistency for Mixed Gaussian-Impulse Noise Removal	592
<i>Jian Zhang, Ruiqin Xiong, Chen Zhao, Siwei Ma, and Debin Zhao</i>	
Frame Rate Up-Conversion for Depth-Based 3D Video	598
<i>Qingchun Lu, Xiangzhong Fang, Chong Xu, and Yongzhe Wang</i>	
Color Filter Array Demosaicking Using Self-validation Framework	604
<i>Ting-Chun Wang, Yi-Nung Liu, and Shao-Yi Chien</i>	

Efficient Single Image Super-Resolution via Graph Embedding	610
<i>Junjun Jiang, Ruimin Hu, Zhen Han, Kebin Huang, and Tao Lu</i>	
Exploiting Structured Sparsity for Image Deblurring	616
<i>Haichao Zhang, Yanning Zhang, and Thomas S. Huang</i>	
Clustering Based Search Algorithm for Motion Estimation	622
<i>Ke Chen, Zhong Zhou, and Wei Wu</i>	
Enhanced Principal Component Using Polar Coordinate PCA for Stereo Audio Coding	628
<i>Shi Dong, Ruimin Hu, Weiping Tu, Xiang Zheng, Junjun Jiang, and Song Wang</i>	
Synthesized View Distortion Based 3D Video Coding for Extrapolation and Interpolation of Views	634
<i>Gerhard Tech, Heiko Schwarz, Karsten Müller, and Thomas Wiegand</i>	
Perceived Picture Quality of Frame-Compatible 3DTV Video Formats	640
<i>Filippo Speranza, Ron Renaud, Andre Vincent, and Wa J. Tam</i>	
A Joint Texture/Depth Edge-Directed Up-sampling Algorithm for Depth Map Coding	646
<i>Huiping Deng, Li Yu, Jinbo Qiu, and Juntao Zhang</i>	
Fast Transcoding from H.264 AVC to High Efficiency Video Coding	651
<i>Dong Zhang, Bin Li, Jizheng Xu, and Houqiang Li</i>	
Motion Vectors Merging: Low Complexity Prediction Unit Decision Heuristic for the Inter-prediction of HEVC Encoders	657
<i>Felipe Sampaio, Sergio Bampi, Mateus Grellert, Luciano Agostini, and Júlio Mattos</i>	
Optimal Bit-allocation for Wavelet-based Scalable Video Coding	663
<i>Guan-Ju Peng, Wen-Liang Hwang, and Sao-Jie Chen</i>	
Pooling Search: Serum Samples Test Simulated Video Fingerprint Search	669
<i>Jincao Yao, Huimin Yu, and Roland Hu</i>	
Finding Subgroups in a Flickr Group	675
<i>Sumit Negi and Santanu Chaudhury</i>	
Bringing Videos to Social Media	681
<i>Stephan Kopf, Stefan Wilk, and Wolfgang Effelsberg</i>	
See-through Image Enhancement through Sensor Fusion	687
<i>Bo Fu, Mao Ye, Ruigang Yang, and Cha Zhang</i>	
Video Based Real-World Remote Target Tracking on Smartphones	693
<i>Qia Wang, Alex Lobzhanidze, Hyun I. Jang, Wenjun Zeng, and Yi Shang</i>	
Lumipen: Projection-Based Mixed Reality for Dynamic Objects	699
<i>Kohei Okumura, Hiromasa Oku, and Masatoshi Ishikawa</i>	
Real-Time Hand Pose Estimation from RGB-D Sensor	705
<i>Yuan Yao and Yun Fu</i>	
On-line Object Reconstruction and Tracking for 3D Interaction	711
<i>Youji Feng, Yihong Wu, and Lixin Fan</i>	

Adaptive Coding with CPU Energy Conservation for Mobile Video Calls	717
<i>Haiyang Ma and Roger Zimmermann</i>	
An Improved Template-Based Approach to Keyword Spotting Applied to the Spoken Content of User Generated Video Blogs	723
<i>M.S. Barakat, C.H. Ritz, and D.A. Stirling</i>	
A Context-aware Description for Content Filtering on Video Sharing Social Networks	729
<i>Antonio da Luz, Eduardo Valle, and Arnaldo de A. Araújo</i>	
Predicting Image Popularity in an Incomplete Social Media Community by a Weighted Bi-partite Graph	735
<i>Xiang Niu, Lusong Li, Tao Mei, Jialie Shen, and Ke Xu</i>	
Error Modeling and Estimation Fusion for Indoor Localization	741
<i>Weipeng Zhuo, Bo Zhang, S.H. Gary Chan, and Edward Y. Chang</i>	
OH1: Multimedia Content Analysis, Understanding, and Retrieval IV	
Video Event Detection Using Temporal Pyramids of Visual Semantics with Kernel Optimization and Model Subspace Boosting	747
<i>Noel C.F. Codella, Apostol Natsev, Gang Hua, Matthew Hill, Liangliang Cao, Leiguang Gong, and John R. Smith</i>	
Grouplet-Based Distance Metric Learning for Video Concept Detection	753
<i>Wei Jiang and Alexander C. Loui</i>	
Ratio Voting: A New Voting Strategy for Large-Scale Image Retrieval	759
<i>Yusuke Uchida, Koichi Takagi, and Shigeyuki Sakazawa</i>	
Topology Preserved Regular Superpixel	765
<i>Dai Tang, Huazhu Fu, and Xiaochun Cao</i>	
OH2: Multimedia System and Architecture	
GPU and CPU Cooperative Acceleration for Face Detection on Modern Processors	769
<i>Eric Li, Bin Wang, Liu Yang, Ya-ti Peng, Yangzhou Du, Yimin Zhang, and Yi-Jen Chiu</i>	
Area and Memory Efficient Architectures for 3D Blu-ray-compliant Multimedia Processors	776
<i>Chi-Cheng Ju, Tsu-Ming Liu, Yeh-Lin Chu, Chuang-Chi Chiou, Bin-Jung Tsai, Te-Chi Hsiao, Ginny Chen, Pin-Huan Hsu, Chih-Ming Wang, Chun-Chia Chen, Hue-Min Lin, Chia-Yun Cheng, Min-Hao Chiu, Sheng-Jen Wang, Jiun-Yuan Wu, Yuan-Chun Lin, Yung-Chang Chang, and Chung-Hung Tsai</i>	
Energy-Aware Operation of Black Box Surveillance Cameras under Event Uncertainty and Memory Constraint	782
<i>Giwon Kim, Jungsoo Kim, Jongpil Jung, and Chong-Min Kyung</i>	

A Unified 4/8/16/32-Point Integer IDCT Architecture for Multiple Video Coding Standards	788
<i>Sha Shen, Weiwei Shen, Yibo Fan, and Xiaoyang Zeng</i>	

OH3: Multimedia Applications

3D Head Pose Estimation Based on Scene Flow and Generic Head Model	794
<i>Peng Liu, Michael Reale, and Lijun Yin</i>	
Efficient Super-Resolution by Finer Sub-Pixel Motion Prediction and Bilateral Filtering	800
<i>Damith J. Mudugamuwa, Xiangjian He, and Wenjing Jia</i>	
Automatic Video Editing for Video-Based Interactive Storytelling	806
<i>Edirlei Soares de Lima, Bruno Feijó, Antonio L. Furtado, Angelo Ciarlini, and Cesar Pozzer</i>	
Crowdsourced Learning to Photograph via Mobile Devices	812
<i>Wenyuan Yin, Tao Mei, and Chang Wen Chen</i>	

OH4: Multimedia Perceptual Assessment and Signal Processing

Pause Intensity: A No-Reference Quality Assessment Metric for Video Streaming in TCP Networks	818
<i>Colin Bailey, Mirghiasaldin Seyedebrahimi, and Xiao-Hong Peng</i>	
Visual Contrast Sensitivity Guided Video Quality Assessment	824
<i>Junyong You, Liyuan Xing, Andrew Perkis, and Touradj Ebrahimi</i>	
Gaussian Noise Level Estimation in SVD Domain for Images	830
<i>Wei Liu and Weisi Lin</i>	
Reducing Blocking Artifacts in Compressed Images via Transform-Domain Non-local Coefficients Estimation	836
<i>Xinfeng Zhang, Ruiqin Xiong, Siwei Ma, and Wen Gao</i>	

OH5: Multimedia Content Analysis, Understanding, and Retrieval V

Fast Near-Duplicate Video Retrieval via Motion Time Series Matching	842
<i>John R. Zhang, Jennifer Y. Ren, Fangzhe Chang, Thomas L. Wood, and John R. Kender</i>	
3D Storyboards for Interactive Visual Search	848
<i>Klaus Schoeffmann, David Ahlström, and Laszlo Böszörmenyi</i>	
From Text Detection in Videos to Person Identification	854
<i>Johann Poignant, Laurent Besacier, Georges Quénod, and Franck Thollard</i>	
Leveraging Concept Association Network for Multimedia Rare Concept Mining and Retrieval	860
<i>Tao Meng and Mei-Ling Shyu</i>	

OH6: Multimedia Signal Processing

A Novel Progressive Image Scanning and Reconstruction Scheme Based on Compressed Sensing and Linear Prediction	866
<i>Giulio Coluccia and Enrico Magli</i>	
Graph-Based Sequential Particle Filtering Framework for Articulated Motion Analysis	872
<i>Jing Huang and Dan Schonfeld</i>	
A Novel View-Level Target Bit Rate Distribution Estimation Technique for Real-Time Multi-view Video Plus Depth	878
<i>Mario Cordina and Carl J. Debono</i>	
Combined Inter-frame and Inter-color Prediction for Color Video Denoising	884
<i>Jingjing Dai, Oscar C. Au, Chao Pang, and Feng Zou</i>	

OH7: 3D Media

An Augmented Reality 3D Pop-Up Book: The Development of a Multimedia Project for English Language Teaching	890
<i>Poonsri Vate-U-Lan</i>	
A Novel Framework for 3D Computer Animation Systems for Nonprofessional Users Using an Automatic Rigging Algorithm	896
<i>Natapon Pantuwong and Masanori Sugimoto</i>	
Unsupervised Conversion of 3D Models for Interactive Metaverses	902
<i>Jeff Terrace, Ewen Cheslack-Postava, Philip Levis, and Michael J. Freedman</i>	

OH8: Media Coding and Delivery

LIPS: A Lightweight Inter-layer Protection Scheme for Scalable Video Coding	908
<i>Shih-Ying Chang and Hsin-Ta Chiao</i>	
Effective Spatial Data Broadcasting	914
<i>Chung-Hua Chu</i>	
PRIME: Pre-registration for IMS Mobility Enhancement	920
<i>Abolfazl Nazari, Jason But, Philip Branch, and Hai Vu</i>	
Complexity Modeling of the Motion Compensation Process of the H.264/AVC Video Coding Standard	925
<i>Mehdi Semsarzadeh, Mohsen Jamali Langroodi, Mahmoud Reza Hashemi, and Shervin Shirmohammadi</i>	

Poster Session: III

Large Scale Partial-Duplicate Image Retrieval Using Invariance Weight of SIFT and SROA Geometric Consistency	931
<i>Zhi Li, Guizhong Liu, and Yana Ma</i>	
Who's Who in a Sports Video? An Individual Level Sports Video Indexing System	937
<i>Shih-Wei Sun, Wen-Huang Cheng, Yao-Ling Hung, Ivy Fan, Chris Liu, Jacqueline Hung, Chia-Kai Lin, and Hong-Yuan Mark Liao</i>	
Object Detection Based on Co-occurrence GMuLBP Features	943
<i>Jingsong Xu, Qiang Wu, Jian Zhang, and Zhenmin Tang</i>	
Live Semantic Sport Highlight Detection Based on Analyzing Tweets of Twitter	949
<i>Liang-Chi Hsieh, Ching-Wei Lee, Tzu-Hsuan Chiu, and Winston Hsu</i>	
Improving Relevance Feedback for Image Retrieval with Asymmetric Sampling	955
<i>Biao Niu, Jian Cheng, and Hanqing Lu</i>	
Contented-Based Large Scale Web Audio Copy Detection	961
<i>Lezi Wang, Yuan Dong, Hongliang Bai, Jiwei Zhang, Chong Huang, and Wei Liu</i>	
Efficient Level of Service Classification for Traffic Monitoring in the Compressed Video Domain	967
<i>Roland Tusch, Felix Pletzer, Armin Krätschmer, Laszlo Böszörmenyi, Bernhard Rinner, Thomas Mariacher, and Manfred Harrer</i>	
A Local Temporal Context-Based Approach for TV News Story Segmentation	973
<i>Émilie Dumont and Georges Quénnot</i>	
Evaluating Gaussian Like Image Representations over Local Features	979
<i>Yu-Chuan Su, Guan-Long Wu, Tzu-Hsuan Chiu, Winston H. Hsu, and Kuo-Wei Chang</i>	
A Synaesthetic Approach for Image Slideshow Generation	985
<i>Yangyang Xiang and Mohan S. Kankanhalli</i>	
Dual-Transform Based Noise Estimation	991
<i>Chongwu Tang, Xiaokang Yang, and Guangtao Zhai</i>	
Parallelization Design of Irregular Algorithms of Video Processing on GPUs	997
<i>Huayou Su, Jun Chai, Mei Wen, Ju Ren, and Chunyuan Zhang</i>	
Measurement of Human Sensitivity across the Vertical-Temporal Video Spectrum for Interlacing Filter Specification	1003
<i>Katy Noland</i>	
Sampling Technique Analysis of Nyström Approximation in Pixel-Wise Affinity Matrix	1009
<i>Chieh-Chi Kao, Jui-Hsin Lai, Ja-Ling Wu, and Shao-Yi Chien</i>	
Fast Video Stabilization in the Compressed Domain	1015
<i>Manish Okade and P.K. Biswas</i>	

Novel Binaural Spectro-temporal Algorithm for Speech Enhancement in Low SNR Environments	1021
<i>Po-Hsun Sung, Bo-Wei Chen, Ling-Sheng Jang, and Jhing-Fa Wang</i>	
Discovering the Best Feature Extraction and Selection Algorithms for Spontaneous Facial Expression Recognition	1027
<i>Ligang Zhang, Dian Tjondronegoro, and Vinod Chandran</i>	
Salient Object Detection through Over-Segmentation	1033
<i>Xuejie Zhang, Zhixiang Ren, Deepu Rajan, and Yiqun Hu</i>	
EEG-based Dominance Level Recognition for Emotion-Enabled Interaction	1039
<i>Yisi Liu and Olga Sourina</i>	
Image Super-Resolution via Low-Pass Filter Based Multi-scale Image Decomposition	1045
<i>Shuyuan Zhu, Bing Zeng, and Shuicheng Yan</i>	
Fine-Granular Parallel EBCOT and Optimization with CUDA for Digital Cinema	
Image Compression	1051
<i>Fang Wei, Qiu Cui, and Ye Li</i>	
An Optimized Hardware Video Encoder for AVS with Level C+ Data Reuse Scheme for Motion Estimation	1055
<i>Kaijin Wei, Rongwei Zhou, Shanghang Zhang, Huizhu Jia, Don Xie, and Wen Gao</i>	
Motion Based Perceptual Distortion and Rate Optimization for Video Coding	1061
<i>Xi Wang, Li Su, Qingming Huang, Chunxi Liu, and Ling-Yu Duan</i>	
Macro-Block-Level Selective Background Difference Coding for Surveillance Video	1067
<i>Xianguo Zhang, Yonghong Tian, Luhong Liang, Tiejun Huang, and Wen Gao</i>	
A Two-Piece R-D Model for Hybrid Video Coding and Its Application in Fast Mode Decision	1073
<i>Alireza Aminlou, Hana Fahim-Hashemi, Mahmoud Reza Hashemi, Moncef Gabbouj, and Omid Fatemi</i>	
Spread and Iterative Search: A High Quality Motion Estimation Algorithm for High Definition Videos and Its VLSI Design	1079
<i>Gustavo Sanchez, Luciano Agostini, Felipe Sampaio, Marcelo Porto, and Sergio Bampi</i>	
A Low-Complexity HEVC Intra Prediction Algorithm Based on Level and Mode Filtering	1085
<i>Heming Sun, Dajiang Zhou, and Satoshi Goto</i>	
Spatially Scalable Video Coding for HEVC	1091
<i>Zhongbo Shi, Xiaoyan Sun, and Feng Wu</i>	

Author Index