

2015 IEEE 17th International Workshop on Multimedia Signal Processing (MMSP 2015)

**Xiamen, China
19 – 21 October 2015**



**IEEE Catalog Number: CFP15MSP-POD
ISBN: 978-1-4673-7479-8**

2015 IEEE 17th International Workshop on Multimedia Signal Processing (MMSP) Technical Program

DAY 1: October 19th Monday

Oral 1: October 19th Monday 10:50am to 11:50am

Human-Centric Multimedia Computing

VRank: Voting System on Ranking Model for Human Age Estimation....1

Tekoing Lim (Academia Sinica), Kai-Lung Hua (Academia Sinica), Hong-Cyuan Wang (Academia Sinica), Kai-Wen Zhao (Academia Sinica), Min-Chun Hu (National Cheng Kung University), Wen-Huang Cheng (Academia Sinica)

Action Recognition using Multi-layer Depth Motion Maps and Sparse Dictionary Learning....7

Chengwu Liang (Zhengzhou University), Enqing Chen (Department of Information Engineering, Zhengzhou University, Zhengzhou, China), Lin Qi (Department of Information Engineering, Zhengzhou University, Zhengzhou, China), Ling Guan (Department of Electrical and Computer Engineering, Ryerson University, Toronto)

An Ensemble of Invariant Features for Person Re-identification....13

Shen-Chi Chen (National Taiwan University), Young-Gun Lee (University of Washington), Jenq-Neng Hwang (University of Washington), Yi-Ping Hung (National Taiwan University) Jang-Hee Yoo (SW Content Research Laboratory, Electronics and Telecommunications Research Institute)

Traffic Flow Matching with Clique and Triplet Cues.... 19

Lihang Liu (Shanghai Jiao Tong University), Weiyao Lin (Shanghai Jiao Tong University), You-Ping Zhong (National Grid Jiangxi Electric Power Co. Maintenance Branch, China)

Oral 2: October 19th Monday 3:30pm to 4:30pm

Multimedia Content Analysis and Retrieval (I)

Learning Query and Image Similarities with Listwise Supervision....25

Yuan Liu (Ricoh Software Research Center), Zhongchao Shi (Ricoh Software Research Center (Beijing) Co., Ltd.) Zhenhua Liu (Ricoh Software Research Center (Beijing) Co., Ltd.) Xue Li (Ricoh Company, LTD.) Gang Wang (Ricoh Software Research Center (Beijing) Co., Ltd.)

Learning-Based Movie Summarization via Role-Community Analysis and Feature Fusion....31

Jun-Ying Li (ASUSTek Computer Inc.), Li-Wei Kang (National Yunlin University of Science and Technology), Chia-Ming Tsai (Ambarella Inc.), Chia-Wen Lin (National Tsing Hua University)

Query-Adaptive Late Fusion with Neural Network for Instance Search....37

Vinh-Tiep Nguyen (University of Science, HCMC), Dinh-Luan Nguyen (University of Science, HCMUS) Minh-Triet Tran (University of Science, HCMC), Duy-Dinh Le (National Institute of Informatics) Duc Anh Duong (University of Information Technology, VNU-HCMC), Shin'ichi Satoh (National Institute of Informatics)

Deep Matrix Factorization for Social Image Tag Refinement and Assignment....43

Zechao Li (Nanjing University of Science and Technology), Jinhui Tang (Nanjing University of Science and Technology)

Oral 3: October 19th Monday 4:30pm to 5:30pm

Multimedia Content Analysis and Retrieval (II)

Vector Representation of Emotion Flow for Popular Music....49

Chia-Hao Chung (National Taiwan University), Homer Chen (National Taiwan University)

Popular Song Summarization Using Chorus Section Detection from Audio Signal....55

Sheng Gao (Institute for Infocomm Research), Haizhou Li (Institute for Infocomm Research)

Speech Reconstruction from Mel-frequency Cepstral Coefficients via l1-norm Minimization....61

Gang MIN (PLA University of Science and Technology), Xiongwei Zhang (PLA University of Science and Technology), JibinYang (PLA University of Science and Technology), Xia Zou (PLA University of Science and Technology)

Large Scale Multi-Class Classification Using Latent Classifiers....66

Tien-Dung Mai (University of Information Technology, VNU-HCMC), Thanh Duc Ngo (University of Information Technology, VNU-HCMC) Duy-Dinh Le (National Institute of Informat), Duc Anh Duong (University of Information Technology, VNU-HCMC), Kiem Hoang (University of Information Technology, VNU-HCMC), Shin'ichi Satoh (National Institute of Informatics)

Poster 1: October 19th Monday 9:30am to 10:50am

Automatic Liver Segmentation from CT Images Using Latent Semantic Indexing....72

Chun-Yao Hsieh, (National Taiwan Ocean University), Shyi-Chyi Cheng (National Taiwan Ocean University), Chin-Chun Chang (National Taiwan University), Chin-Lang Lin (Chang Gung Memorial Hospital)

Fast Simultaneous Video Encoder for Adaptive Streaming....78

Johan De Praeter (Ghent University), Antonio Jesus Diaz-Honrubia (Universidad de Castilla-La Mancha), Niels Van Kets (Ghent University), Glenn Van Wallendael (Ghent University), Jan De Cock (Ghent University), Peter Lambert (Ghent University), RikVan de Walle (Ghent University)

Accurate Silhouette Extraction of Multiple Moving Objects for Free Viewpoint Sports Video Synthesis....84

Qiang Yao (KDDI R&D Laboratory), Hiroshi Sankoh (KDDI R&D Laboratory), Houari Sabirin (KDDI R&D Laboratory), SeiNaito (KDDI R&D Laboratory)

Kinect-based Non-intrusive Human Gait Analysis and Visualization....90

Nguyen-Luc Dao (Nanyang Technological University), Yuzhe Zhang (Nanyang Technological University), Jianmin Zheng (Nanyang Technological University), Jianfei Cai (Nanyang Technological University)

SSIM-Inspired Two-Pass Rate Control for High Efficiency Video Coding....96

Shiqi Wang (University of Waterloo), Abdul Rehman (University of Waterloo), Kai Zeng (University of Waterloo), Zhou Wang (University of Waterloo)

Spatio-Temporal Pyramid Model Based on Depth Maps for Action Recognition....101

Haining Xu (School of Zhengzhou University), Enqing Chen (Zhengzhou University), Chengwu Liang (Zhengzhou University), Lin Qi (Zhengzhou University), Ling Guan (Ryerson University)

Audio Event Recognition Based on DBN Features from Multiple Filter-bank Representations....107

Feng Guo (Peking University), Xiaou Cheng (Peking University), Deshun Yang (Peking University)

Soft Binary Segmentation-based Backlit Image Enhancement....113

Zhenhao Li (McMaster University), Kai Cheng (Shanghai Jiao Tong University), Xiaolin Wu (McMaster University)

Augmenting Flower Recognition by Automatically Expanding Training Data from Web....118

Cheng-Yu Huang (National Taiwan University), Yen-Liang Lin (National Taiwan University), Winston H. Hsu (National Taiwan University)

Rotation invariant ellipsoid projection for domain transfer in human skin detection....124

Jie Geng (Beijing Jiaotong University), Zhenjiang Miao (Beijing Jiaotong University), Qinghua Liang (Beijing JiaotongUniversity) Shu Wang (Beijing Jiaotong University)

Spatial-Temporal Correlation for Trajectory based Action Video Retrieval....129

Xi Shen (University of Sydney), Lelin Zhang (University of Sydney), Zhiyong Wang (University of Sydney), Dagan Feng(University of Sydney)

Real Time and Scene Invariant Crowd Counting: Across a Line or Inside a Region....135

Mingjie Deng (Shanghai Jiaotong University), Yi Xu (Shanghai Jiaotong University), Pufan Jiang (Shanghai Jiaotong University), Xiaokang Yang (Shanghai Jiao Tong University of China)

Generalised Features for Bird Vocalisation Retrieval in Acoustic Recordings....141

Xueyan Dong (Queensland University of Technology), Jie Xie (Queensland University of Technology), Michael Towsey(Queensland University of Technology), Jinglan Zhang (Queensland University of Technology), Paul Roe (Queensland University of Technology)

Rating Prediction via Exploring Service Reputation....147

Xueming Qian (Xi'an Jiaotong University), Xiaojiang Lei (Xi'an Jiaotong University)

Poster 2: October 19th Monday 2:30pm to 3:30pm

Speech Enhancement Based on Robust NMF Solved by Alternating Direction Method of Multipliers....153

Yinan Li (PLA University of Science & Technology), Xiongwei Zhang (PLA University of Science & Technology), Meng Sun (PLA University of Science & Technology), Jingfeng Pan (PLA University of Science & Technology)

A Two-Stage Fast CU Size Decision Method for HEVC Intracoding....158

Qi Zhang (Institute of Computer Science), Jun Sun (Institute of Computer Science), Yizhou Duan (Institute of Computer Science), Zongming Guo (Peking University)

Motion Blur Modelling for Hierarchically Anchored Motion with Discontinuities....164

Dominic Rufenacht (The University of New South Wales), Reji Mathew (The University of New South Wales), David Taubman(The University of New South Wales)

Large-Scale Human Action Recognition with Spark....170

Hanli Wang (Tongji University), Xiaobin Zheng (Tongji University), Bo Xiao (Tongji University)

A Fast Region-Level 3D-Warping Method for Depth-Image-Based Rendering....176

Jian Jin (Beijing Jiao tong University), Anhong Wang (Taiyuan University of Science and Technology), Yao Zhao (Beijing Key Laboratory of Advanced Information Science and Network Technology), Chunyu Lin (Beijing Key Laboratory of Advanced Information Science and Network Technology)

Deep Kinship Verification....182

Mengyin Wang (Nanjing University of Science & Technology) Zechao Li (Nanjing University of Science & Technology), XiangboShu (Nanjing University of Science & Technology), Jingdong Wang (Nanjing University of Science & Technology), Jinhui Tang (Nanjing University of Science & Technology)

A Hierarchical Saliency Detection Approach for Bokeh Images....188

Zhaohui Che (Jiao Tong University), Guangtao Zhai (Jiao Tong University), Xiongkuo Min (Jiao Tong University)

Multi-rate encoding for HEVC-based adaptive HTTP streaming with multiple resolutions....194

Damien Schroeder (TU München), Adithyan Ilangoan (TU München), Eckehard Steinbach (TU München)

An Image Deblocking Method Based on Pre-classification and Sparse Representation....200

Han Zhao (Beijing University of Technology), Xiaoguang Li (Beijing University of Technology), Li Liu (Beijing University of Technology), Li Zhuo (Beijing University of Technology)

View Synthesis for 3D Video Scene Composition....206

Amanda Wang (National Chiao Tung University), Chun-Liang Chien (National Chiao Tung University), Hsueh-Ming Hang (National Chiao Tung University)

Contrast and Distribution based Saliency Detection in Infrared Images....211

Lu Li (Bei Hang University), Yu Zheng (Beihang University), Fugen Zhou (Beihang University)

Query-by-Example Spoken Term Detection Using Low Dimensional Posteriorgrams Motivated by Articulatory Classes....217

Abhimanyu Popli (Indian Institute of Technology Delhi), Arun Kumar (Indian Institute of Technology Delhi)

DAY 2: October 20th Tuesday

Oral 4: October 20th Tuesday 10:50am to 11:50am

Multimedia Compression

Steerable Discrete Cosine Transform....223

Giulia Fracastoro (Politecnico di Torino), Enrico Magli (Politecnico di Torino)

An L1/2-norm Based Efficient Block Level Rate Estimation Model for HEVC....229

Yang Li (Xi'an Jiaotong University), Xuanqin Mou (Xi'an Jiaotong University), Chao Wang (Xi'an Jiaotong University)

Affine SKIP and MERGE Modes for Video Coding....235

Huanbang Chen (Sun Yat-sen University), Fan Liang (Sun Yat-sen University), Sixin Lin (Huawei Technologies Co., Ltd.)

Low Bit-rate Compression of Video and Light-field Data using Coded Snapshots and Learned Dictionaries240

Chandrajit Choudhury (Indian Institute of Technology Bombay) Yellamraju Tarun (Indian Institute of Technology Bombay) AjitRajwade (Indian Institute of Technology Bombay), Subhasis Chaudhuri (Indian Institute of Technology Bombay)

Oral 5: October 20th Tuesday 2:30pm to 3:30pm

Multimedia Quality Assessment and Enhancement

Perceptual Quality Assessment of High Frame Rate Video....246

Rasoul Mohammadi Nasiri (University of Waterloo), Jiheng Wang (University of Waterloo), Abdul Rehman (University of Waterloo), Shiqi Wang (University of Waterloo), Zhou Wang (University of Waterloo)

Depth Perception of Distorted Stereoscopic Images.... 252

Jiheng Wang (University of Waterloo), Shiqi Wang (University of Waterloo), Zhou Wang (University of Waterloo)

A Robust Method for Aligning Large-Photometric-Variation and Noisy Images....258

Shiqian Wu (Wuhan University of Science and Technology) Wangming Xu (Wuhan University of Science and Technology), Jun Jiang (Wuhan University of Science and Technology), Yimin Qiu (Wuhan University of Science and Technology), Liangcai Zeng (Wuhan University of Science and Technology)

RIFO: Restoring Images with Fence Occlusions....264

Jingyu Yang (Tianjin University), Jun Wang (Tianjin University), Leijie Liu (Tianjin University), Chunping Hou (Tianjin University)

Poster 3: October 20th Tuesday 9:30am to 10:50am

Multi-pitch Estimation Based on Sparse Representation with Pre-screened Dictionary....270

Lufei Gao (The Chinese University of Hong Kong), Tan Lee (The Chinese University of Hong Kong)

Sketch-based Image Retrieval Using Contour Segments....276

Xueming Qian (Xi'an Jiaotong University), Yuting Zhang (Xi'an Jiaotong University), Xianglong Tan (Xi'an Jiaotong University)

Visual Summarization for Place-of-Interest by Social-Contextual Constrained Geo-clustering....282

Yayun Ren (Xi'an Jiaotong University), Xueming Qian (Xi'an Jiaotong University), Shuhui Jiang (Xi'an Jiaotong University)

Quality-of-Content (QoC)-Driven Rate Allocation for Video Analysis in Mobile Surveillance Networks....288

Xiang Chen (University of Washington), Jenq-Neng Hwang (University of Washington), Kuan-Hui Lee (University of Washington), Ricardo L. de Queiroz (University of Washington)

Heaviside Image Edge Sharpening....294

Liang-Jian Deng (School of Mathematical Science), Weihong Guo (School of Mathematical Science), Ting-Zhu Huang (School of Mathematical Science), Xi-Le Zhao (School of Mathematical Science)

Patch-based Nonlocal Dynamic MRI Reconstruction with Low-rank Prior....299

Liyan Sun (Xiamen University), Jinchu Chen (Xiamen University), Xiao-Ping Zhang (Xiamen University), Xinghao Ding (Xiamen University)

An Evaluation Criterion of Saliency Models for Video Seam Carving....305

Marc Decombas (Université de Mons), Pierre Marighetto (Université de Mons) Matei Mancas (Université de Mons), Ioannis Cassagne (Université de Mons), Nicolas Riche (Université de Mons), Bernard Gosselin (Université de Mons), Thierry Dutoit (Université de Mons), Robert Laganieri (University of Ottawa)

Adaptive Guided Image Filter for Improved In-Loop Filtering in Video Coding....311

Chen Chen (Hong Kong University of Science and Technology), Zexiang Miao (University of Electronic Science and Technology of China), Bing Zeng (University of Electronic Science and Technology of China)

Dictionary Design for Sensor Network Localization via Block-Sparsity....317

Alessandro Bay (Politecnico di Torino), Diego Carrera (Politecnico di Torino), Sophie Fosson (Politecnico di Torino), Pasqualina Fragneto (Politecnico di Torino), Marco Grella (Politecnico di Torino), Chiara Ravazzi (Politecnico di Torino), Enrico Magli (Politecnico di Torino)

Maximum Bit Average Entropy based Binary SIFT (MBAE_BS) for Face Recognition with Pose Variation....323

Lifang Wu (Beijing University of Technology), Wei Qi (Beijing University of Technology), Yaxi Hou (Beijing University of Technology), Yukun Ma (Beijing University of Technology),

Quantized Dictionary for Sparse Representation....327

Lei Liu (Beijing Jiaotong University), Jie Liang (Simon Fraser University), Yao Zhao (Beijing Key Laboratory of Advanced Information Science and Network Technology), Chunyu Lin (Beijing Key Laboratory of Advanced Information Science and Network Technology), Huihui Bai (Beijing Jiaotong University)

A Calibration Simplified Method for Gaze Interaction Based On Using Experience.... 333

Cong Niu (Shandong University), Jiande Sun (Shandong University), Jing Li (Shandong Management University), Hua Yan (Shandong University of Finance and Economics)

Pedestrian Detection based on Region Proposal Fusion....338

Bin Wang (Beijing Jiaotong University) Sheng Tang (Institute of Computing Technology Chinese Academy Of China), Ruizhen Zhao (Beijing Jiaotong University) Wu Liu (Institute of Computing Technology, Chinese Academy of Sciences), Yigang Cen (Institute of Computing Technology, Chinese Academy of Sciences)

Improved Downstream Rate-Distortion Performance of SHVC in DASH using Sub-layer-selective Inter-layer Prediction....344

Xuehui Huang (University of Science and Technology of China), Miska M. Hannuksela (Nokia Technologies), Houqiang Li (University of Science and Technology of China)

Reducing Wedgelet Lookup Table Size with Down-Sampling for Depth Map Coding in 3D-HEVC....350

Shuying Ma (University of Electronic Science and Technology of China), Yong Wang (University of Electronic Science and Technology of China), Ce Zhu (University of Electronic Science and Technology of China), Yongbing Lin (University of Electronic Science and Technology of China), Jianhua Zheng (University of Electronic Science and Technology of China)

DAY 3: October 21st Wednesday

Oral 6: October 21st Wednesday 10:50am to 11:50am

Multimodal signal processing

Hierarchical Oil Painting Stylization with Limited Reference via Sparse Representation....355

Saboya Yang (Peking University), Jiaying Liu (Peking University), Shuai Yang (Peking University), Sifeng Xia (Peking University), Zongming Guo (Peking University)

A Line Segments Extraction Based Undirected Graph from 2D Laser Scans....361

Xinzhao Li (Xi'an Jiaotong University), Yuehu liu (Institute of Artificial Intelligence and Robotics), Zhenning Niu (Institute of Artificial Intelligence and Robotics), Zhichao Cui (Institute of Artificial Intelligence and Robotics)

Linear discriminant analysis using sparse matrix transform for face recognition....367

Linsen Wang (Hubei University), Jiangtao Peng (Hubei University), Fangzhao Wang (Hubei University), Baoshen Li (Hubei University)

Hybrid Hidden Markov Model for Mixed Continuous/Continuous and Discrete/Continuous Data Modeling....373

Elise Epailard (Concordia University), Nizar Bouguila (Concordia University)

Oral 7: October 21st Wednesday 1:30pm to 2:30pm

Depth Data Processing

Epipolar Plane Image based Rendering for 3D Video Coding....379

Joao Ascenso (Italia Sistemi Tecnologici), Catarina Brites (Italia Sistemi Tecnologici), Fernando Pereira (Italia SistemiTecnologici)

Contour Approximation & Depth Image Coding for Virtual View Synthesis....385

Yuan Yuan (University of Alberta), Gene Cheung (National Institute of Informatics), Pascal Frossard (École PolytechniqueFédérale de Lausanne), Patrick Le Callet (Universite de Nantes), Vicky Zhao (University of Alberta)

Texture-Free Large-Area Depth Recovery for Planar Surfaces....391

Zengqiang Yan (Huazhong University of Science and Technology), Li Yu (Huazhong University of Science and Technology), Zixiang Xiong (Texas A&M University)

Human Action Recognition Using Temporal Hierarchical Pyramid of Depth Motion Map and KECA....397

Nour El Din El Madany (Ryerson University), Yifeng He (Ryerson University), Ling Guan (Ryerson University)

Special Session: October 21st Wednesday 2:30pm to 3:30pm

Multimedia Big Data Analysis and Retrieval

Repetitive Video Clip Mining Using Spatially Constrained-Gray Scale Matrix and Hash-Similar Indexing Structure....N/A

Fangyuan Wang (Chinese Academy of Sciences), Bo Xu (Chinese Academy of Sciences), Hongwei Hao (Chinese Academy of Sciences)

Combining Deep Learning and Unsupervised Clustering to Improve Scene Recognition Performance....403

Armin Kappeler (Northwestern University), Robin D. Morris (Yahoo!), Amar Ramesh Kamat (Yahoo!), Nikhil Rasiwasia (Yahoo!), Gaurav Aggarwal (Yahoo!)

Affine Scale Space for Viewpoint Invariant Keypoint Detection....409

Biao Zhao (Politecnico di Torino), Skjalg Lepsoy (Telecom Italia), Enrico Magli (Politecnico di Torino)

Car Re-identification from Large Scale Images Using Semantic Attributes....415

Qi Zheng (Wuhan University), Liang Chao (Wuhan University), Wenhua Fang (Wuhan University), Da Xiang (Wuhan University), Xin Zhao (Wuhan University), Chengping Ren (Wuhan University), Jun Chen (Wuhan University)

Oral 8: October 21st Wednesday 3:30pm to 4:30pm

Multimedia Applications

K-Nearest Neighbors Algorithm Based on Weak Bit Implementation on Enhanced Vote Count Circuit....420

Haiyan SHU (Institute for Infocomm Research), Wenyu JIANG (Institute for Infocomm Research), Rongshan YU (Institute for Infocomm Research)

Scalable Logo Recognition based on Compact Sparse Dictionary for Mobile Devices.... 426

Sheng Tang (Institute of Computing Technology, Chinese Academy of Sciences), Yong-Dong Zhang (Institute of Computing Technology, Chinese Academy of Sciences), Hui Chen (Institute of Computing Technology, Chinese Academy of Sciences)

Event Recognition in Personal Photo Collections Using Hierarchical Model and Multiple Features....432

Cong Guo (University of Science and Technology of China) Xinmei Tian (University of Science and Technology of China)*

Non-invasive imaging based on sparse representation....438

Kaiyun Wei (Tsinghua University) Xin Jin (Tsinghua University), Yifu Hu (Tsinghua University), Qionghai Dai (Tsinghua University)

Poster 4: October 21st Wednesday 9:30am to 10:50am

Video Content and Structure Description Based on Keyframes, Clusters and Storyboards....444

Marc Junyent (Disney Research), Pablo Beltran (Disney Research), Miquel Farre (Disney Research), Jordi Pont-Tuset (Disney Research), Alexandre Chapiro (Disney Research), Aljoscha Smolic (Disney Research)

Region-Adaptive Quantisation for Prevention of Contouring in Coded Video....450

Andre Seixas Dias (British Broadcasting Corporation), Marta Mrak (British Broadcasting Corporation)

Fast DASH Bootstrap....456

Nassima Bouzakaria (Telecom ParisTech), Cyril Concolato (Telecom ParisTech), Jean Le Feuvre (Telecom ParisTech)

Graph Spectral Motion Segmentation Based on Motion Vanishing Point Analysis....462

Dong Tian (Mitsubishi Electric Research Laboratories), Jiun-Yu Kao (University of Southern California), Hassan Mansour (Mitsubishi Electric Research Labs), Anthony Vetro (Mitsubishi Electric Research Laboratories)

Down-/Up-Sampling Based Depth Coding by Utilizing Interview Correlation....468

Jianjun Song (University of Electronic Science and Technology of China), Xin Wang (University of Electronic Science and Technology of China), Ce Zhu (University of Electronic Science and Technology of China)

Loop Detection in Robotic Navigation Using MPEG CDVS....473

Pedro P. B. de Gusmao (Politecnico di Torino), Stefano Rosa (Politecnico di Torino), Enrico Magli (Telecom Italia), SkjalgLeppsoy (Telecom Italia), Gianluca Francini (Telecom Italia)

Thousand to One: An Image Compression System via Cloud Search....479

Chen Zhao (Peking University), Siwei Ma (Peking University), Wen Gao (Peking University)

Towards Rate-Distortion Analysis of General Source Distributions: Property and Principles....484

Jun Sun (Institute of Computer Science), Yizhou Duan (Institute of Computer Science), Qi Zhang (Institute of Computer Science), Jiasi Shen (Peking University), Zongming Guo (Peking University)

An Improved ICP Registration Algorithm with a Weight-Bootstrap Scheme....489

Fei Guo (Ryerson University), Yifeng He (Ryerson University), Ling Guan (Ryerson University)

Rectangle Fitting via Quadratic Programming....495

Jingyu Yang (Tianjin University), Zhongyu Jiang (Tianjin University)

Fast Learning Discriminative Dictionaries for Large-scale Visual Recognition....501

Tianyi Zhao (The University of North Carolina at Charlotte), Yanyun Qu (Xiamen University), Jianping Fan (The University of North Carolina at Charlotte)

Power Efficient Mobile Video Streaming Using HTTP/2 Server Push....507

Sheng Wei (Adobe), Viswanathan Swaminathan (Adobe), Mengbai Xiao (Adobe)

Future Buffer based Adaptation for VBR Video Streaming over HTTP....513

Tuan Vu (University of Aizu), Hung T. Le (University of Aizu), Duc V. Nguyen (University of Aizu), Nam Pham Ngoc (Huazhong University of Science & Technology), Truong Cong Thang (University of Aizu)

Human Action Recognition from Depth Videos Using Multi-Projection based Representation....518

Chien Quang Le (The Graduate University for Advanced Studies), Thanh Duc Ngo (University of Information Technology, VNU-HCMC), Duy-Dinh Le (National Institute of Informatics), Shin'ichi Satoh (National Institute of Informatics), Duc Anh Duong (University of Information Technology, VNU-HCMC)

Hidden Target Detection from the Multi-echo Small-Footprint LiDAR Point Clouds.... 524

Yiping Chen (Xiamen University), Cheng, Wang (Xiamen University), Jonathan Li (Xiamen University)