

MMSP 2014 - Final Technical Program

Jakarta, Indonesia, September 22-24, 2014

MONDAY, Sept. 22

MORNING

Time: 8:50-9:00

WELCOME REMARKS

Chairs: Susanto Rahardja, National University of Singapore, Singapore and Zhengyou Zhang, Microsoft Research, USA

Time: 9:00-10:00

KEYNOTE TALK

Title: Multimedia Security: Technology and Society by Ton Kalker, DTS, Inc., USA

Chair: Zhengyou Zhang, Microsoft Research, USA

Time: 10.00-11.00

ORAL SESSION 1: 3D VIDEO ANALYSIS

Chair: Gene Cheung, National Institute of Informatics, Japan

Estimating Spatial Layout of Rooms from RGB-D Videos

Anran Wang, Nanyang Technological University, Singapore; Jiwen Lu, Advanced Digital Sciences Center, Singapore; JianfeiCai, Nanyang Technological University, Singapore; Gang Wang, Nanyang Technological University, Singapore; Tat-Jen Cham, Nanyang Technological University, Singapore

Efficient Automatic Detection of 3D Video Artifacts

Mohan Liu, Fraunhofer HHI, Germany; Patrick Ndjiki-Nya, Fraunhofer HHI Image Processing, Germany; Ioannis Mademlis, AUTH, Greece; Nikos Nikolaidis, AUTH, Greece; Ioannis Pitas, University of Thessaloniki, Greece; Jean-Charles Le Quintrec, ARTE, Tufalu

Shot type characterization in 2D and 3D video content

Ioannis Tsingalis, Aristotle University, Greece; AnastasiosTefas, Aristotle University of Thessaloniki, Greece; Nikos Nikolaidis, AUTH, Greece; Ioannis Pitas, University of Thessaloniki, Greece

Note: All oral presentations are also part of the Poster session of the day and thus oral session authors should also prepare a poster.

Time: 11:00-11:30

Morning Break

Time: 11.30-12.30

Poster Session 1: Multimedia Processing Systems, and Applications

Chair: Mukti Budiarto

A hybrid approach to animating the murals with Dunhuang style

Bingwen Jin, Zhejiang University, China; Linglong Feng, Zhejiang University, China; Gang LIU, Dunhuang Academy, China; Huaqing Luo, Dunhuang Academy, China; Weidong Geng, Zhejiang University, China

Vision-based Tracking in Large Image Database for Real-Time Mobile Augmented Reality

Madjid Maidi, Telecom SudParis, France; Marius Preda, Telecom SudParis, France; Yassine Lehiani, Telecom SudParis, France; Traian Lavric, Telecom SudParis, France

A fusion-based enhancing approach for single sandstorm image

Xueyang Fu, Xiamen University, China; Yue Huang, Xiamen University, China; Delu Zeng, China ; Xiao-Ping Zhang, Ryerson University, Canada; Xinghao Ding, Xiamen University, China

Robust Mixed Noise Removal with Non-parametric Bayesian Sparse Outlier Model

Peixian Zhuang, Xiamen University, China; Wei Wang, School of Information Science and Engineering, Xiamen University, China; Delu Zeng, China; Xinghao Ding, Xiamen University, China

Stable Pose Tracking from a Planar Target with an Analytical Motion Model in Real-time Applications

Po-Chen Wu, National Taiwan University, Taiwan; Yao-Hung Tsai, National Taiwan University, Taiwan; Shao-Yi Chien, National Taiwan University, Taiwan

Design of Extrafine Complex Directional Wavelet Transform and Application to Image Denoising

Shrishail Gajbhar, DA-IICT, Gandhinagar, India; Manjunath Joshi, DA-IICT, Gandhinagar, India

Video Super-Resolution via Dynamic Texture Synthesis

Chih-Chung Hsu, National Tsing Hua University, Taiwan; Li-Wei Kang, National Yunlin University of Science and Technology, Taiwan; Chia-Wen Lin, , Taiwan

Cost Effective Video Streaming Using Server Push over HTTP 2.0

Sheng Wei, Adobe Systems Inc., USA; Viswanathan Swaminathan, Adobe Systems Inc., USA

Within- and Cross- Database Evaluations for Gender Classification via BeFIT Protocols

Nesli Erdogmus, Idiap Research Institute, Switzerland; Matthias Vanoni, Idiap Research Institute, Switzerland; Sebastien Marcel, Idiap Research Institute, Switzerland

Extrinsic Calibration for Wide-Baseline RGB-D Camera Network

Ju Shen, University of Kentucky, USA; Wanxin Xu, University of Kentucky, USA; Ying Luo, University of Kentucky, USA; Po-chang Su, University of Kentucky, USA; Samson Cheung, University of Kentucky, USA

Time: 12:30-14:00

Lunch Break

AFTERNOON

Time: 14:00-15:00

OVERVIEW TALK

Title: Autonomous Virtual Humans and Social Robots in Telepresence by Nadia Thalman, Institute for Media Innovation, Nanyang Technological University, Singapore

Chair: Lekha Chaisorn, National University of Singapore, Singapore

Time: 15.00-16.00

Oral Session 2: Classification and Recommendation

Chair: Nam Ling, Santa Clara University, USA

View-invariant Feature Discovering for Multi-camera Human Action Recognition

Hong Lin, Tianjin University, China; Lekha Chaisorn, NUS, Singapore; Yongkang Wong, China; An-An Liu, Tianjin University China; Yu-Ting Su, Tianjin University, China; Mohan Kankanhalli, National University of Singapore, Singapore

SVM Is Not Always Confident: Telling Whether the Output from Multiclass SVM Is True or False by Analysing Its Confidence Values

Toshihiko Yamasaki, University of Tokyo, Japan; Takaki Maeda, Japan; Kiyoharu Aizawa, Japan

Music Recommendation Based on Artist Novelty and Similarity

Ning Lin, National Taiwan University, Taiwan; Ping-Chia Tsai, National Taiwan University, Taiwan; Yu-An Chen, National Taiwan University, Taiwan; Homer H. Chen, National Taiwan University, Taiwan

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Time: 16:00-16:30

Afternoon Break

Time: 16:30-17:30

PANEL SESSION

Title: Multimedia Security: Technology and Society

Chair: Ton Kalker, DTS, Inc., USA

Panelists:

Touradj Ebrahimi, EPFL, Switzerland

Oscar Au, HKUST, Hong Kong

Time: 19:00

WELCOME RECEPTION

TUESDAY, Sept. 23

MORNING

Time: 9:00-10:00

KEYNOTE TALK

Title : Person-Centered Multimedia Computing: A New Paradigm Inspired by Assistive and Rehabilitative Application by Sethuraman Panchanathan, Arizona State University, USA

Chair: Susanto Rahardja, National University of Singapore, Singapore

Time: 10.00-11.00

Oral Session 3: Event Detection and Recognition

Chair: Touradj Ebrahimi, EPFL, Switzerland

Graph-based Depth Video Denoising and Event Detection for Sleep Monitoring

Cheng Yang, University of Strathclyde, England; Yu Mao, National Institute of Informatics, Japan; Gene Cheung, National Institute of Informatics, Japan; Vladimir Stankovic, University of Strathclyde, England; Kevin Chan, USA

Gaze Direction Estimation From Static Images

Krystian Radlak, Silesian University of Technol, Poland; Michal Kawulok, Poland; Bogdan Smolka, Poland; Natalia Radlak, Poland

Soccer Video Summarization based on Cinematography and Motion Analysis

Ngoc Nguyen, JAIST, Japan; Atsuo Yoshitaka, Jaist, Japan

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Time: 11:00-11:30

Morning Break

Time: 11.30-12.30

Poster Session 2: Multimedia Analysis & Retrieval

Chair: Yuliana Isma Graha

Skeleton-Guided Vectorization of Chinese Calligraphy Images

Wanqiong Pan, Peking University, China; Zhouhui Lian, Institute of Computer Science and Technology, Peking University, China; Yingmin Tang, Institute of Computer Science and Technology, Peking University, China; Jianguo Xiao, Institute of Computer Science and Technology, Peking University, China

GrabCut-Based Abandoned Object Detection

Kahlil Muchtar, National Sun Yat-sen University, Taiwan; Chih-Yang Lin, Asia University, Taiwan; Chia-Hung Yeh, National Sun Yat-sen University, Taiwan

A Pilot Study on Affective Classification of Facial Images for Emerging News Topics

Ligang Zhang, Xi'an University of Technology, China; Andy Cher Han Lau, Queensland University of Technology, Australia; Dian Tjondronegoro, Queensland University of Technology, Australia; Vinod Chandran, Queensland University of Technology, Australia

NMF-based Multiple Pitch Estimation Using Sparseness and Inter-frame Continuity Constraints

Takanori Fujisawa, Keio University, Japan; Ikuo Degawa, Keio University, Japan; Masaaki Ikehara, Keio University, Japan

Social Image Search exploiting Joint Visual-Textual information within a Fuzzy Hypergraph Framework

Konstantinos Pliakos, Aristotle University of Thessaloniki, Greece; Constantine Kotropoulos, Aristotle University of Thessaloniki, Greece

Optimal Detector for Camera Model Identification Based on an Accurate Model of DCT Coefficients

Thanh Hai Thai, Troyes University of Technology, France; Remi Cogramme, Troyes University of Technology, France; Florent Retraint, Troyes University of Technology, France

Multi-View Action Recognition by Cross-domain Learning

Weizhi Nie, Tianjin University, China; An-An Liu, Tianjin University, China; Jing Yu, Tianjin University, China; Yu-Ting Su, Tianjin University, China; Lekha Chaisorn, NUS, Singapore; Yongkang Wong, China

Local Stereo Matching Algorithm using Rotation-Skeleton-Based Region

Xing Li, Beijing Jiaotong University, China; Yao Zhao, China; Chun Yu Lin, China; Chao Yao, China

Classifying Harmful Children's Content Using Affective Analysis

Joseph Santarcangelo, Ryerson University, Canada; Xiao-Ping Zhang, Ryerson University, Canada

Background Subtraction Under Sudden Illumination Change

Hasan Sajid, University of Kentucky, USA; Samson Cheung, University of Kentucky, USA

Time: 11.30-12.30

Sketch & Demo Session

Chair: TBD

Adaptive Intra Refresh Algorithm for HEVC Video Transmission

Htoo Maung, Chulalongkorn University, Thailand; Supavadee Aramvith, Chulalongkorn University, Thailand

Parametrization of 3D point clouds using Superquadrics

Marco Niehaus, Technical University of Ilmenau, Germany; Gerald Schuller, Technical University of Ilmenau, Germany

Free-viewpoint Video Synthesis for Sport Scenes Captured with a Single RGB-D Camera

Hiroshi Sankoh, KDDI R&D Laboratories Inc., Japan; Sei Naito, KDDI R&D Laboratories Inc., Japan

Note: Demo and sketch presentations will follow a poster format presentation (naturally the demo presentations with the corresponding demo).

Time: 12:30-14:00

Lunch Break

AFTERNOON

Time: 14:00-15:00

OVERVIEW TALK

Title: Towards Smart Social Systems by Ramesh Jain, University of California, Irvine, USA

Chair: Mohan Kankanhalli, National University of Singapore, Singapore

Time: 15.00-16.00

Oral Session 4: Scalable Coding

Chair: Byeungwoo Jeon, Sungkyunkwan University, South Korea

A New Error-Mapping Scheme for Scalable Audio Coding

Haibin Huang, Institute for Infocomm Research, Singapore; Susanto Rahardja, National University of Singapore, Singapore

Bidirectional Hierarchical Anchoring of Motion Fields for Scalable Video Coding

Dominic Ruefenacht, UNSW, Australia; Reji Mathew, UNSW, Australia; David Taubman, UNSW, Australia

Embedded Coding of Optical Flow Fields for Scalable Video Compression

Sean Young, UNSW, Australia; Reji Mathew, UNSW, Australia; David Taubman, UNSW, Australia

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Time: 16:00-16:30

Afternoon Break

Time: 16:30-17:30

PANEL SESSION

Title: Wearable multimedia computing

Chair: Homer Chen, National Taiwan University, Taiwan

Panelists:

Zhengyou Zhang, Microsoft, USA

Ellen Do, Georgia Tech, USA

Touradj Ebrahimi, EPFL, Switzerland

Time: 19:00

BANQUET

WEDNESDAY, Sept. 24

MORNING

Time: 9:00-10:00

KEYNOTE TALK

Title: A New Domain-oriented Video Coding by Wen Gao, Peking University, China

Chair: Fernando Pereira, IST-IT, Portugal

Time: 10.00-11.00

Oral Session 5: HEVC

Chair: Oscar C. Au, HKUST, Hong Kong

Towards Efficient Wavefront Parallel Encoding of HEVC: Parallelism Analysis and Improvement

Keji Chen, Peking University, China; Yizhou Duan, China; Jun Sun, China; Zongming Guo, China

Highly Optimized Implementation of HEVC Decoder for General Processors

Shengbin Meng, Peking University, China; Yizhou Duan, China; Jun Sun, China; Zongming Guo, China

Adaptive Low Complexity Colour Transform for Video Coding

Rajitha Weerakkody, BBC R&D, UK, England; Marta Mrak, BBC R&D, UK, England

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Time: 11:00-11:30

Morning Break

Time: 11.30-12.30

Poster Session 3: Visual Coding

Chair: Sugeng Santoso

An Improved Rate Control Algorithm for SVC with Optimised MAD Prediction

Xin Lu, Warwick, England; Graham Martin, University of Warwick, England

Iterative Hierarchical True Motion Estimation for Temporal Frame Interpolation

Anton Veselov, SUAI, Russia; Marat Gilmutdinov, SUAI, Russia

A Novel Video Coding Scheme using a Scene Adaptive Non-Parametric Background Model

Subrata Chakraborty, School of Management & Enterprise, University of Southern Queensland, QLD 4300, Australia; Manoranjan Paul, Charles Sturt University, Australia; Manzur Murshed, Federation University, Australia; Mortuza Ali, Federation University, Australia

Fast Mode Decision for Error Resilient Video Coding

Yunong Wei, Communication Uni. of China, China; Yuan Zhang, China; Jinyao Yan, China

Compression of HD Videos by a Contrast-Based Human Attention Algorithm

Sylvia N'guessan, SCU, USA; Nam Ling, SCU, USA; ZhouyeGu, SCU, USA

Block-based Compressive Sensing of Video using Local Sparsifying Transform

Byeungwoo Jeon, Sungkyunkwan University, South Korea; Chien Van Trinh, Sungkyunkwan University, South Korea; Viet Anh Nguyen, Sungkyunkwan University, South Korea

A Fast Intermode Decision Algorithm Based on Analysis of Inter Prediction Residual

LuhengJia, HKUST, Hong Kong; Oscar C. Au, HKUST, Hong Kong; Chi-yingTsui, HKUST, Hong Kong

AUTOMATIC HIGH DYNAMIC RANGE HALLUCINATION IN INVERSE TONE MAPPING

Pin-Hung Kuo, National Taiwan University, Taiwan; Huai Jen Liang, National Taiwan University, Taiwan; Chi-Sun Tang, National Taiwan University, Taiwan; Shao-Yi Chien, National Taiwan University, Taiwan

H.264/AVC Backward Compatible Bit-Depth Scalable Video Coding

Vasco Nascimento, IST-IT, Portugal; João Ascenso, IST-IT, Portugal; Fernando Pereira, IST-IT, Portugal

Correlation Modeling for a Distributed Scalable Video Codec based on the HEVC Standard

Xiem Hoang Van IST-IT, Portugal; João Ascenso, IST-IT, Portugal ; Fernando Pereira, IST-IT, Portugal

Time: 12:30-14:00

Lunch Break

AFTERNOON

Time: 14:00-15:00

OVERVIEW TALK

Title: 2D/3D AudioVisual Content Analysis & Description by Ioannis Pitas, Aristotle University of Thessaloniki, Greece

Chair: David Taubman, The University of New South Wales, Australia

Time: 15.00-16.00

Special Session: Quality Assessment

Chair: António Pinheiro, UBI, Portugal

Survey of Web-based Crowdsourcing Frameworks for Subjective Quality Assessment

Tobias Hossfeld, University of Würzburg, Germany; Matthias Hirth, University of Würzburg, Germany; Pavel Korshunov, EPFL, Switzerland; Philippe Hanhart, EPFL, Switzerland; Bruno Gardlo, FTW, Austria; Christian Keimel, TU Munich, Germany; Christian Timmerer, Multimedia Communication, Alpen-Adria-Universität Klagenfurt, Austria

Free-viewpoint video sequences: a new challenge for objective quality metrics

Philippe Hanhart, EPFL, Switzerland; Emilie Bosc, Université de Nantes, France; Patrick Le Callet, Université de Nantes, France; Touradj Ebrahimi, EPFL, Switzerland

Subjective and objective quality assessment of HDR images compressed with JPEG-XT

Claire Mantel, Technical University of Denmark, Denmark; Stefan Catalin Ferchiu, Technical University of Denmark, Denmark; Søren Forchhammer, Technical University of Denmark, Denmark

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Time: 16:00-16:30

Afternoon Break

Time: 16.30-17.10

Special Session: Quality Assessment (Cont)

Chair: António Pinheiro, UBI, Portugal

Performance evaluation of the emerging JPEG XT image compression standard

Antonio Pinheiro, UBI, Portugal; Karel Fliegel, CTU in Prague, Czech Republic; Pavel Korshunov, EPFL, Switzerland; Lukas Krasula, CTU in Prague, Czech Republic; Marco Bernardo, UBI, Portugal; Manuela Pereira, UBI, Portugal; Touradj Ebrahimi, EPFL, Switzerland

QoE-Driven Performance Analysis of Cloud Gaming Services

Zi-Yi Wen, National ChiaoTung University, Taiwan; Hsu-Feng Hsiao, National Chiao Tung University, Taiwan

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Time: 17.10-17.30

Closing Remarks

Chairs: Susanto Rahardja, National University of Singapore, Singapore and Zhengyou Zhang, Microsoft Research, USA