## Contents – Part I

Full Papers Accepted for Oral Presentation

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D Sound Field Reproduction at Non Central Point for NHK 22.2 System.</td>
<td>3</td>
</tr>
<tr>
<td>Song Wang, Ruimin Hu, Shihong Chen, Xiaochen Wang, Yuhong Yang,</td>
<td></td>
</tr>
<tr>
<td>Weiping Tu, and Bo Peng</td>
<td></td>
</tr>
<tr>
<td>A Comparison of Approaches for Automated Text Extraction from</td>
<td>15</td>
</tr>
<tr>
<td>Scholarly Figures</td>
<td></td>
</tr>
<tr>
<td>Falk Böschen and Ansgar Scherp</td>
<td></td>
</tr>
<tr>
<td>A Convolutional Neural Network Approach for Post-Processing in HEVC</td>
<td>28</td>
</tr>
<tr>
<td>Intra Coding</td>
<td></td>
</tr>
<tr>
<td>Yuanying Dai, Dong Liu, and Feng Wu</td>
<td></td>
</tr>
<tr>
<td>A Framework of Privacy-Preserving Image Recognition for Image-Based</td>
<td>40</td>
</tr>
<tr>
<td>Information Services</td>
<td></td>
</tr>
<tr>
<td>Kojiro Fujii, Kazuaki Nakamura, Naoko Nitta, and Noboru Babaguchi</td>
<td></td>
</tr>
<tr>
<td>A Real-Time 3D Visual Singing Synthesis: From Appearance to Internal</td>
<td>53</td>
</tr>
<tr>
<td>Articulators</td>
<td></td>
</tr>
<tr>
<td>Jun Yu</td>
<td></td>
</tr>
<tr>
<td>A Structural Coupled-Layer Tracking Method Based on Correlation Filters</td>
<td>65</td>
</tr>
<tr>
<td>Sheng Chen, Bin Liu, and Chang Wen Chen</td>
<td></td>
</tr>
<tr>
<td>Augmented Telemedicine Platform for Real-Time Remote Medical</td>
<td>77</td>
</tr>
<tr>
<td>Consultation</td>
<td></td>
</tr>
<tr>
<td>David Anton, Gregorij Kurillo, Allen Y. Yang, and Ruzena Bajcsy</td>
<td></td>
</tr>
<tr>
<td>Color Consistency for Photo Collections Without Gamut Problems</td>
<td>90</td>
</tr>
<tr>
<td>Qi-Chong Tian and Laurent D. Cohen</td>
<td></td>
</tr>
<tr>
<td>Comparison of Fine-Tuning and Extension Strategies for Deep</td>
<td>102</td>
</tr>
<tr>
<td>Convolutional Neural Networks</td>
<td></td>
</tr>
<tr>
<td>Nikiforos Pittaras, Foteini Markatopoulou, Vasileios Mezaris,</td>
<td></td>
</tr>
<tr>
<td>and Ioannis Patras</td>
<td></td>
</tr>
<tr>
<td>Describing Geographical Characteristics with Social Images</td>
<td>115</td>
</tr>
<tr>
<td>Huangjie Zheng, Jiangchao Yao, and Ya Zhang</td>
<td></td>
</tr>
<tr>
<td>Fine-Grained Image Recognition from Click-Through Logs Using Deep Siamese Network</td>
<td>127</td>
</tr>
<tr>
<td>Wu Feng and Dong Liu</td>
<td></td>
</tr>
</tbody>
</table>
Fully Convolutional Network with Superpixel Parsing for Fashion Web Image Segmentation .......................................................... 139
  Lixuan Yang, Helena Rodriguez, Michel Crucianu, and Marin Ferecatu

Graph-Based Multimodal Music Mood Classification in Discriminative Latent Space. .......................................................... 152
  Feng Su and Hao Xue

Joint Face Detection and Initialization for Face Alignment ............. 164
  Zhiwei Wang and Xin Yang

Large-Scale Product Classification via Spatial Attention Based CNN Learning and Multi-class Regression ................................. 176
  Shanshan Ai, Caiyan Jia, and Zhineng Chen

Learning Features Robust to Image Variations with Siamese Networks for Facial Expression Recognition .................................. 189
  Wissam J. Baddar, Dae Hoe Kim, and Yong Man Ro

M3LH: Multi-modal Multi-label Hashing for Large Scale Data Search. ...... 201
  Guan-Qun Yang, Xin-Shun Xu, Shanqing Guo, and Xiao-Lin Wang

Model-Based 3D Scene Reconstruction Using a Moving RGB-D Camera ... 214
  Shyi-Chyi Cheng, Jui-Yuan Su, Jing-Min Chen, and Jun-Wei Hsieh

Modeling User Performance for Moving Target Selection with a Delayed Mouse ................................................................. 226
  Mark Claypool, Ragnhild Eg, and Kjetil Raaen

Multi-attribute Based Fire Detection in Diverse Surveillance Videos ...... 238
  Shuangqun Li, Wu Liu, Huadong Ma, and Huiyuan Fu

Near-Duplicate Video Retrieval by Aggregating Intermediate CNN Layers... 251
  Giorgos Kordopatis-Zilos, Symeon Papadopoulos, Ioannis Patras,
  and Yiannis Kompatsiaris

No-Reference Image Quality Assessment Based on Internal Generative Mechanism ............................................................ 264
  Xinchun Qian, Wengang Zhou, and Houqiang Li

On the Exploration of Convolutional Fusion Networks for Visual Recognition ........................................................................... 277
  Yu Liu, Yanming Guo, and Michael S. Lew

Phase Fourier Reconstruction for Anomaly Detection on Metal Surface Using Salient Irregularity ............................................. 290
  Tzu-Yi Hung, Sriram Vaikundam, Vidhya Natarajan, and Liang-Tien Chia
SS1: Social Media Retrieval and Recommendation

Collaborative Dictionary Learning and Soft Assignment for Sparse Coding of Image Features .................................................. 443
  Jie Liu, Sheng Tang, and Yu Li

LingoSent — A Platform for Linguistic Aware Sentiment Analysis for Social Media Messages ........................................... 452
  Yuting Su and Huijing Wang

Multi-Task Multi-modal Semantic Hashing for Web Image Retrieval with Limited Supervision ........................................... 465
  Liang Xie, Lei Zhu, and Zhiyong Cheng

Object-Based Aggregation of Deep Features for Image Retrieval .......... 478
  Yu Bao and Haojie Li

Uyghur Language Text Detection in Complex Background Images Using Enhanced MSERs ............................................ 490
  Shun Liu, Hongtao Xie, Chuan Zhou, and Zhendong Mao

SS2: Modeling Multimedia Behaviors

CELoF: WiFi Dwell Time Estimation in Free Environment ............... 503
  Chen Yan, Peng Wang, Haitian Pang, Lifeng Sun, and Shiqiang Yang

Demographic Attribute Inference from Social Multimedia Behaviors:
  A Cross-OSN Approach .................................................... 515
  Liancheng Xiang, Jitao Sang, and Changsheng Xu

Understanding Performance of Edge Prefetching ........................ 527
  Zhengyuan Pang, Lifeng Sun, Zhi Wang, Yuan Xie, and Shiqiang Yang

User Identification by Observing Interactions with GUIs ............... 540
  Zaher Hinbarji, Rami Albatal, and Cathal Gurrin

Utilizing Locality-Sensitive Hash Learning for Cross-Media Retrieval 550
  Jia Yuhua, Bai Liang, Wang Peng, Guo Jinlin, Xie Yuxiang, and Yu Tianyuan

SS3: Multimedia Computing for Intelligent Life

A Sensor-Based Official Basketball Referee Signals Recognition System Using Deep Belief Networks .................................. 565
  Chung-Wei Yeh, Tse-Yu Pan, and Min-Chun Hu
Compact CNN Based Video Representation for Efficient Video Copy Detection ................................. 576
   Ling Wang, Yu Bao, Haojie Li, Xin Fan, and Zhongxuan Luo

Cross-Modal Recipe Retrieval: How to Cook this Dish? .................. 588
   Jingjing Chen, Lei Pang, and Chong-Wah Ngo

Deep Learning Based Intelligent Basketball Arena with Energy Image .... 601
   Wu Liu, Jianguo Liu, Xiaoyan Gu, Kun Liu, Xiaowei Dai, and Huadong Ma

Efficient Multi-scale Plane Extraction Based RGBD Video Segmentation . 614
   Hong Liu, Jun Wang, Xiangdong Wang, and Yueliang Qian

Human Pose Tracking Using Online Latent Structured Support Vector Machine ..................................................... 626
   Kai-Lung Hua, Irawati Nurmala Sari, and Mei-Chen Yeh

Micro-Expression Recognition by Aggregating Local Spatio-Temporal Patterns .................................................. 638
   Shiyu Zhang, Bailan Feng, Zhineng Chen, and Xiangsheng Huang

egoPortray: Visual Exploration of Mobile Communication Signature from Egocentric Network Perspective ................... 649
   Qing Wang, Jiansu Pu, Yuanfang Guo, Zheng Hu, and Hui Tian

i-Stylist: Finding the Right Dress Through Your Social Networks .......... 662
   Jordi Sanchez-Riera, Jun-Ming Lin, Kai-Lung Hua, Wen-Huang Cheng, and Arvin Wen Tsui

SS4: Multimedia and Multimodal Interaction for Health and Basic Care Applications

Boredom Recognition Based on Users’ Spontaneous Behaviors in Multiparty Human-Robot Interactions ................. 677
   Yasuhiro Shibasaki, Kotaro Funakoshi, and Koichi Shinoda

Classification of sMRI for AD Diagnosis with Convolutional Neuronal Networks: A Pilot 2-D+ Study on ADNI .......... 690
   Karim Aderghal, Manuel Boissenin, Jenny Benois-Pineau, Gwenaëlle Catheline, and Karim Afdel

Deep Learning for Shot Classification in Gynecologic Surgery Videos ... 702
   Stefan Petscharnig and Klaus Schöffmann
Description Logics and Rules for Multimodal Situational Awareness in Healthcare ........................................... 714
   Georgios Meditskos, Stefanos Vrochidis, and Ioannis Kompatsiaris

Speech Synchronized Tongue Animation by Combining Physiology Modeling and X-ray Image Fitting ....................... 726
   Jun Yu

Erratum to: ReMagicMirror: Action Learning Using Human Reenactment with the Mirror Metaphor ..................... El
   Fabian Lorenzo Dayrit, Ryosuke Kimura, Yuta Nakashima,
   Ambrosio Blanco, Hiroshi Kawasaki, Katsushi Ikeuchi, Tomokazu Sato,
   and Naokazu Yokoya

Author Index .............................................................. 739
## Contents – Part II

### Full Papers Accepted for Poster Presentation

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Comparative Study for Known Item Visual Search Using Position Color Feature Signatures</td>
<td>3</td>
</tr>
<tr>
<td>Jakub Lokoč, David Kuboň, and Adam Blažek</td>
<td></td>
</tr>
<tr>
<td>A Novel Affective Visualization System for Videos Based on Acoustic and Visual Features</td>
<td>15</td>
</tr>
<tr>
<td>Jianwei Niu, Yiming Su, Shasha Mo, and Zeyu Zhu</td>
<td></td>
</tr>
<tr>
<td>A Novel Two-Step Integer-pixel Motion Estimation Algorithm for HEVC Encoding on a GPU</td>
<td>28</td>
</tr>
<tr>
<td>Keji Chen, Jun Sun, Zongming Guo, and Dachuan Zhao</td>
<td></td>
</tr>
<tr>
<td>A Scalable Video Conferencing System Using Cached Facial Expressions</td>
<td>37</td>
</tr>
<tr>
<td>Fang-Yu Shih, Ching-Ling Fan, Pin-Chun Wang, and Cheng-Hsin Hsu</td>
<td></td>
</tr>
<tr>
<td>A Unified Framework for Monocular Video-Based Facial Motion Tracking and Expression Recognition</td>
<td>50</td>
</tr>
<tr>
<td>Jun Yu</td>
<td></td>
</tr>
<tr>
<td>A Virtual Reality Framework for Multimodal Imagery for Vessels in Polar Regions</td>
<td>63</td>
</tr>
<tr>
<td>Scott Sorensen, Abhishek Kolagunda, Andrew R. Mahoney, Daniel P. Zitterbart, and Chandra Kambhamettu</td>
<td></td>
</tr>
<tr>
<td>Adaptive and Optimal Combination of Local Features for Image Retrieval</td>
<td>76</td>
</tr>
<tr>
<td>Neelanjan Bhowmik, Valérie Gouet-Brunet, Lijun Wei, and Gabriel Bloch</td>
<td></td>
</tr>
<tr>
<td>An Evaluation of Video Browsing on Tablets with the ThumbBrowser</td>
<td>89</td>
</tr>
<tr>
<td>Marco A. Hudelist and Klaus Schoeffmann</td>
<td></td>
</tr>
<tr>
<td>Binaural Sound Source Distance Reproduction Based on Distance Variation Function and Artificial Reverberation</td>
<td>101</td>
</tr>
<tr>
<td>Jiaiwang Xu, Xiaochen Wang, Maosheng Zhang, Cheng Yang, and Ge Gao</td>
<td></td>
</tr>
<tr>
<td>Color-Introduced Frame-to-Model Registration for 3D Reconstruction</td>
<td>112</td>
</tr>
<tr>
<td>Fei Li, Yunfan Du, and Rujie Liu</td>
<td></td>
</tr>
<tr>
<td>Compressing Visual Descriptors of Image Sequences</td>
<td>124</td>
</tr>
<tr>
<td>Werner Bailer, Stefanie Wechtitsch, and Marcus Thaler</td>
<td></td>
</tr>
</tbody>
</table>
Deep Convolutional Neural Network for Bidirectional Image-Sentence Mapping .................................................. 136
    Tianyuan Yu, Liang Bai, Jinlin Guo, Zheng Yang, and Yuxiang Xie

Discovering Geographic Regions in the City Using Social Multimedia and Open Data ........................................ 148
    Stevan Rudinac, Jan Zahálka, and Marcel Worrting

Discovering User Interests from Social Images .......................................................... 160
    Jiangchao Yao, Ya Zhang, Ivor Tsang, and Jun Sun

Effect of Junk Images on Inter-concept Distance Measurement: Positive or Negative? ........................................ 173
    Yusuke Nagasawa, Kazuaki Nakamura, Naoko Nitta, and Noboru Babaguchi

Exploiting Multimodality in Video Hyperlinking to Improve Target Diversity .................................................. 185
    Rémi Bois, Vedran Vukotić, Anca-Roxana Simon, Ronan Sicre, Christian Raymond, Pascale Sébillot, and Guillaume Gravier

Exploring Large Movie Collections: Comparing Visual Berrypicking and Traditional Browsing .......................... 198
    Thomas Low, Christian Hentschel, Sebastian Stober, Harald Sack, and Andreas Nürnbergber

Facial Expression Recognition by Fusing Gabor and Local Binary Pattern Features ........................................ 209
    Yuechuan Sun and Jun Yu

Frame-Independent and Parallel Method for 3D Audio Real-Time Rendering on Mobile Devices ........................ 221
    Yucheng Song, Xiaochen Wang, Cheng Yang, Ge Gao, Wei Chen, and Weiping Tu

Illumination-Preserving Embroidery Simulation for Non-photorealistic Rendering ....................................... 233
    Qiqi Shen, Dele Cui, Yun Sheng, and Guixu Zhang

Improving the Discriminative Power of Bag of Visual Words Model ......................................................... 245
    Achref Ouni, Thierry Urruty, and Muriel Visani

M-SBIR: An Improved Sketch-Based Image Retrieval Method Using Visual Word Mapping ............................ 257
    Jianwei Niu, Jun Ma, Jie Lu, Xuefeng Liu, and Zeyu Zhu

Movie Recommendation via BLSTM .................................................. 269
    Song Tang, Zhiyong Wu, and Kang Chen
Multimodal Video-to-Video Linking: Turning to the Crowd for Insight and Evaluation ................................................. 280
Maria Eskevich, Martha Larson, Robin Aly, Serwah Sabetghadam, Gareth J.F. Jones, Roeland Ordelman, and Benoit Huet

Online User Modeling for Interactive Streaming Image Classification ............. 293
Jiagao Hu, Zhengxing Sun, Bo Li, Kewei Yang, and Dongyang Li

Recognizing Emotions Based on Human Actions in Videos ..................... 306
Guolong Wang, Zheng Qin, and Kaiping Xu

Rocchio-Based Relevance Feedback in Video Event Retrieval .................. 318
G.L.J. Pingen, M.H.T. de Boer, and R.B.N. Aly

Scale-Relation Feature for Moving Cast Shadow Detection .................... 331
Chih-Wei Lin

Smart Loudspeaker Arrays for Self-Coordination and User Tracking .......... 343
Jungju Jee and Jung-Woo Choi

Spatial Verification via Compact Words for Mobile Instance Search .......... 356
Bo Wang, Jie Shao, Chengkun He, Gang Hu, and Xing Xu

Stochastic Decorrelation Constraint Regularized Auto-Encoder for Visual Recognition ............................................. 368
Fengling Mao, Wei Xiong, Bo Du, and Lefei Zhang

The Perceptual Lossless Quantization of Spatial Parameter for 3D Audio Signals ............................................................ 381
Gang Li, Xiaochen Wang, Li Gao, Ruimin Hu, and Dengshi Li

Unsupervised Multiple Object Cosegmentation via Ensemble MIML Learning ....................................................... 393
Weichen Yang, Zhengxing Sun, Bo Li, Jiagao Hu, and Kewei Yang

Using Object Detection, NLP, and Knowledge Bases to Understand the Message of Images ........................................................... 405
Lydia Weiland, Ioana Hulpus, Simone Paolo Ponzetto, and Laura Dietz

Video Search via Ranking Network with Very Few Query Exemplars ....... 419
De Cheng, Lu Jiang, Yihong Gong, Nanning Zheng, and Alexander G. Hauptmann

Demonstrations

A Demo for Image-Based Personality Test ........................................ 433
Huaiwen Zhang, Jiaming Zhang, Jitao Sang, and Changsheng Xu
MultiMedia Modeling
Amsaleg, L.; Guðmundsson, G.P.; Gurrin, C.; Jónsson, B.P.; Satoh, S. (Eds.)
2017, XXIV, 742 p. 293 illus., Softcover
ISBN: 978-3-319-51810-7