

*Commenced Publication in 1973*

Founding and Former Series Editors:

Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

## Editorial Board

David Hutchison

*Lancaster University, Lancaster, UK*

Takeo Kanade

*Carnegie Mellon University, Pittsburgh, PA, USA*

Josef Kittler

*University of Surrey, Guildford, UK*

Jon M. Kleinberg

*Cornell University, Ithaca, NY, USA*

Friedemann Mattern

*ETH Zurich, Zurich, Switzerland*

John C. Mitchell

*Stanford University, Stanford, CA, USA*

Moni Naor

*Weizmann Institute of Science, Rehovot, Israel*

C. Pandu Rangan

*Indian Institute of Technology Madras, Chennai, India*

Bernhard Steffen

*TU Dortmund University, Dortmund, Germany*

Demetri Terzopoulos

*University of California, Los Angeles, CA, USA*

Doug Tygar

*University of California, Berkeley, CA, USA*

Gerhard Weikum

*Max Planck Institute for Informatics, Saarbrücken, Germany*

More information about this series at <http://www.springer.com/series/7409>

Richang Hong · Wen-Huang Cheng  
Toshihiko Yamasaki · Meng Wang  
Chong-Wah Ngo (Eds.)

# Advances in Multimedia Information Processing – PCM 2018

19th Pacific-Rim Conference on Multimedia  
Hefei, China, September 21–22, 2018  
Proceedings, Part I



Springer

*Editors*

Richang Hong  
Hefei University of Technology  
Hefei  
China

Wen-Huang Cheng  
National Chiao Tung University  
Hsinchu  
Taiwan

Toshihiko Yamasaki  
University of Tokyo  
Tokyo  
Japan

Meng Wang  
Hefei University of Technology  
Hefei  
China

Chong-Wah Ngo  
City University of Hong Kong  
Hong Kong  
Hong Kong, China

ISSN 0302-9743                   ISSN 1611-3349 (electronic)  
Lecture Notes in Computer Science  
ISBN 978-3-030-00775-1       ISBN 978-3-030-00776-8 (eBook)  
<https://doi.org/10.1007/978-3-030-00776-8>

Library of Congress Control Number: 2018954671

LNCS Sublibrary: SL3 – Information Systems and Applications, incl. Internet/Web, and HCI

© Springer Nature Switzerland AG 2018

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG  
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

## Preface

The 19th Pacific-Rim Conference on Multimedia (PCM 2018) was held in Hefei, China, during September 21–22, 2018, and hosted by the Hefei University of Technology (HFUT). PCM is a major annual international conference for multimedia researchers and practitioners across academia and industry to demonstrate their scientific achievements and industrial innovations in the field of multimedia.

It is a great honor for HFUT to host PCM 2018, one of the most longstanding multimedia conferences, in Hefei, China. Hefei University of Technology, located in the capital of Anhui province, is one of the key universities administrated by the Ministry of Education, China. Recently its multimedia-related research has attracted more and more attentions from local and international multimedia community. Hefei is the capital city of Anhui Province, and is located in the center of Anhui between the Yangtze and Huaihe rivers. Well known both as a historic site famous from the Three Kingdoms Period and the hometown of Lord Bao, Hefei is a city with a history of more than 2000 years. In modern times, as an important base for science and education in China, Hefei is the first and sole Science and Technology Innovation Pilot City in China, and a member city of WTA (World Technopolis Association). We hope that PCM 2018 is a memorable experience for all participants.

PCM 2018 featured a comprehensive program. We received 422 submissions to the main conference by authors from more than ten countries. These submissions included a large number of high-quality papers in multimedia content analysis, multimedia signal processing and communications, and multimedia applications and services. We thank our Technical Program Committee with 178 members, who spent much time reviewing papers and providing valuable feedback to the authors. From the total of 422 submissions, the program chairs decided to accept 209 regular papers (49.5%) based on at least three reviews per submission. In total, 30 papers were received for four special sessions, while 20 of them were accepted. The volumes of the conference proceedings contain all the regular and special session papers.

We are also heavily indebted to many individuals for their significant contributions. We wish to acknowledge and express our deepest appreciation to general chairs, Meng Wang and Chong-Wah Ngo; program chairs, Richang Hong, Wen-Huang Cheng and Toshihiko Yamasaki; organizing chairs, Xueliang Liu, Yun Tie and Hanwang Zhang; publicity chairs, Jingdong Wang, Min Xu, Wei-Ta Chu and Yi Yu, special session chairs, Zhengjun Zha and Liqiang Nie. Without their efforts and enthusiasm, PCM 2018 would not have become a reality. Moreover, we want to thank our sponsors: Springer, Anhui Association for Artificial Intelligence, Shandong Artificial Intelligence Institute, Kuaishou Co. Ltd., and Zhongke Leinao Co. Ltd. Finally, we wish to thank

all committee members, reviewers, session chairs, student volunteers, and supporters. Their contributions are much appreciated.

September 2018

Richang Hong  
Wen-Huang Cheng  
Toshihiko Yamasaki  
Meng Wang  
Chong-Wah Ngo

# **Organization**

## **General Chairs**

Meng Wang                    Hefei University of Technology, China  
Chong-Wah Ngo              City University of Hong Kong, Hong Kong, China

## **Technical Program Chairs**

Richang Hong                Hefei University of Technology, China  
Wen-Huang Cheng            National Chiao Tung University, Taiwan, China  
Toshihiko Yamasaki        University of Tokyo, Japan

## **Organizing Chairs**

Xueliang Liu                Hefei University of Technology, China  
Yun Tie                      Zhengzhou University, China  
Hanwang Zhang             Nanyang Technological University, Singapore

## **Publicity Chairs**

Jingdong Wang              Microsoft Research Asia, China  
Min Xu                      University of Technology Sydney, Australia  
Wei-Ta Chu                National Chung Cheng University, Taiwan, China  
Yi Yu                        National Institute of Informatics, Japan

## **Special Session Chairs**

Zhengjun Zha                University of Science and Technology of China, China  
Liqiang Nie                Shandong University, China

# Contents – Part I

## Oral Session

CodedVision: Towards Joint Image Understanding and Compression via End-to-End Learning . . . . .	3
<i>Qiu Shen, Juanjuan Cai, Linfeng Liu, Haojie Liu, Tong Chen, Long Ye, and Zhan Ma</i>	
Random Angular Projection for Fast Nearest Subspace Search . . . . .	15
<i>Binshuai Wang, Xianglong Liu, Ke Xia, Kotagiri Ramamohanarao, and Dacheng Tao</i>	
Image Denoising with Local Dense and Adaptive Global Residual Networks . . . . .	27
<i>Lulu Sun, Yongbing Zhang, Chenggang Yan, Xiangyang Ji, Xinhong Hao, Yongdong Zhang, and Qionghai Dai</i>	
Cross Diffusion on Multi-hypergraph for Multi-modal 3D Object Recognition . . . . .	38
<i>Zizhao Zhang, Haojie Lin, Junjie Zhu, Xibin Zhao, and Yue Gao</i>	
View-Dependent Streaming of Dynamic Point Cloud over Hybrid Networks . . . . .	50
<i>Lanyi He, Wenjie Zhu, Ke Zhang, and Yiling Xu</i>	
Video Captioning Based on the Spatial-Temporal Saliency Tracing . . . . .	59
<i>Yuanen Zhou, Zhenzhen Hu, Xueliang Liu, and Meng Wang</i>	
CS-DeCNN: Deconvolutional Neural Network for Reconstructing Images from Compressively Sensed Measurements . . . . .	71
<i>Wentao Wan, Guohui Li, and Peng Pan</i>	
Semantic Correspondence Guided Deep Photo Style Transfer . . . . .	81
<i>Zhijiao Xiao, Xiaole Zhang, and Xiaoyan Zhang</i>	
Multiple-Level Feature-Based Network for Image Captioning . . . . .	94
<i>Kaidi Zheng, Chen Zhu, Shaopeng Lu, and Yonggang Liu</i>	
Collaborative Detection and Caption Network . . . . .	104
<i>Tianyi Wang, Jiang Zhang, and Zheng-Jun Zha</i>	
Video-Based Person Re-identification with Adaptive Multi-part Features Learning . . . . .	115
<i>Jingjing Wu, Jianguo Jiang, Meibin Qi, Hao Liu, and Meng Wang</i>	

Visual-SLIM: Integrated Sparse Linear Model with Visual Features for Personalized Recommendation . . . . .	126
<i>Siyang Chen, Feng Xue, and Haobo Zhang</i>	
Residual Learning Dehazing Net . . . . .	136
<i>Yili Gu and Xinguang Xiang</i>	
Temporal-Contextual Attention Network for Video-Based Person Re-identification . . . . .	146
<i>Di Chen, Zheng-Jun Zha, Jiawei Liu, Hongtao Xie, and Yongdong Zhang</i>	
Synthetic Aperture Based on Plenoptic Camera for Seeing Through Occlusions . . . . .	158
<i>Heng Zhang, Xin Jin, and Qionghai Dai</i>	
Neutrosophic C-means Clustering with Local Information and Noise Distance-Based Kernel Metric Image Segmentation . . . . .	168
<i>Zhenyu Lu, Yunan Qiu, and Tianming Zhan</i>	
Reflection Separation Using Patch-Wise Sparse and Low-Rank Decomposition . . . . .	179
<i>Jie Guo, Chunyou Li, Zuojian Zhou, and Jingui Pan</i>	
Conditional Feature Coupling Network for Multi-persons Clothing Parsing . . . . .	189
<i>Jiaming Guo, Zhuo Su, Xianghui Luo, Gengwei Zhang, and Xiwen Liang</i>	
Intra-view and Inter-view Attention for Multi-view Network Embedding . . . . .	201
<i>Yueyang Wang, Liang Hu, Yueting Zhuang, and Fei Wu</i>	
Multi-modal Sequence to Sequence Learning with Content Attention for Hotspot Traffic Speed Prediction . . . . .	212
<i>Binbing Liao, Siliang Tang, Shengwen Yang, Wenwu Zhu, and Fei Wu</i>	
Modeling Text with Graph Convolutional Network for Cross-Modal Information Retrieval . . . . .	223
<i>Jing Yu, Yuhang Lu, Zengchang Qin, Weifeng Zhang, Yanbing Liu, Jianlong Tan, and Li Guo</i>	
Smoothness Assisted Interactive Face Annotation via Neural Network . . . . .	235
<i>Jin Sun, Hao He, Hengli Luo, and Liyan Zhang</i>	
An End-to-End Real-Time 3D System for Integral Photography Display . . . . .	246
<i>Shenghao Zhang, Zhenyu Wang, Mingtong Zhu, and Ronggang Wang</i>	
Deep Discriminative Quantization Hashing for Image Retrieval . . . . .	257
<i>Jingbo Fan, Chuanchuan Chen, and Yuesheng Zhu</i>	

Automatic 3D Garment Fitting Based on Skeleton Driving . . . . .	267
<i>Haozhong Cai, Guangyuan Shi, Chengying Gao, and Dong Wang</i>	
Real-Time RGBD Reconstruction Using Structural Constraint for Indoor AR . . . . .	278
<i>Chen Wang and Yue Qi</i>	
Pairwise Cross Pattern: A Color-LBP Descriptor for Content-Based Image Retrieval . . . . .	290
<i>Qiaohong Hao, Qinghe Feng, Ying Wei, Mateu Sbert, Wenhuan Lu, and Qing Xu</i>	
Multimodal Dimensional and Continuous Emotion Recognition in Dyadic Video Interactions . . . . .	301
<i>Jinming Zhao, Shizhe Chen, and Qin Jin</i>	
Visual Object Tracking via Graph Learning and Flexible Manifold Ranking . . . . .	313
<i>Bo Jiang, Doudou Lin, Jin Tang, and Bin Luo</i>	
Gaussian Dilated Convolution for Semantic Image Segmentation . . . . .	324
<i>Falong Shen and Gang Zeng</i>	
Reading Document and Answering Question via Global Attentional Inference . . . . .	335
<i>Jun Song, Siliang Tang, Tianchi Qian, Wenwu Zhu, and Fei Wu</i>	
Residual Compression Network for Faster Correlation Tracking . . . . .	346
<i>Chao Xie, Ning Wang, Wengang Zhou, Weiping Li, and Houqiang Li</i>	
Robust Neighborhood Preserving Low-Rank Sparse CNN Features for Classification . . . . .	357
<i>Zemin Tang, Zhao Zhang, Xiaohu Ma, Jie Qin, and Mingbo Zhao</i>	
Pedestrian Detection with a Directly-Cascaded Deconvolution-Convolution Structure . . . . .	370
<i>Zhiming Chen, Xintong Han, Weiyao Lin, Ming-Ming Cheng, Guangcan Liu, and Hongkai Xiong</i>	
Adaptive Integration Skip Compensation Neural Networks for Removing Mixed Noise in Image . . . . .	381
<i>Kai Lin, Yiwei Zhang, Thomas H. Li, Kan Huang, and Ge Li</i>	
Retrieval Across Optical and SAR Images with Deep Neural Network . . . . .	392
<i>Yifan Zhang, Wengang Zhou, and Houqiang Li</i>	
Tiny Surface Defects on Small Ring Parts Using Normal Maps . . . . .	403
<i>Yang Zhang, Jia Song, Huiming Zhang, Jingwu He, and Yanwen Guo</i>	

Extracting Features of Interest from Small Deep Networks for Efficient Visual Tracking . . . . .	414
<i>Zhao Luo, Shiming Ge, Yingying Hua, Haolin Liu, and Xin Jin</i>	
A Novel Feature Fusion with Self-adaptive Weight Method Based on Deep Learning for Image Classification . . . . .	426
<i>Qijun Tian, Shouhong Wan, Peiquan Jin, Jian Xu, Chang Zou, and Xingyue Li</i>	
Text Component Reconstruction for Tracking in Video . . . . .	437
<i>Minglei Yuan, Palaiahnakote Shivakumara, Hao Kong, Tong Lu, and Umapada Pal</i>	
Robust Deep Gaussian Descriptor for Texture Recognition. . . . .	448
<i>Jiahua Wang, Jianxin Zhang, Qiule Sun, Bin Liu, and Qiang Zhang</i>	
JND-Pano: Database for Just Noticeable Difference of JPEG Compressed Panoramic Images . . . . .	458
<i>Xiaohua Liu, Zihao Chen, Xu Wang, Jianmin Jiang, and Sam Kowng</i>	
HDP-Net: Haze Density Prediction Network for Nighttime Dehazing. . . . .	469
<i>Yinghong Liao, Zhuo Su, Xiangguo Liang, and Bin Qiu</i>	
Reflectance Reference for Intra-Frame Coding of Surveillance Video. . . . .	481
<i>Dong Liu, Zhenxin Zhang, Fangdong Chen, Houqiang Li, and Feng Wu</i>	
Deeper Spatial Pyramid Network with Refined Up-Sampling for Optical Flow Estimation . . . . .	492
<i>Zefeng Sun and Hanli Wang</i>	
An Improved Algorithm for Saliency Object Detection Based on Manifold Ranking. . . . .	502
<i>Huiling Wang, Hao Wang, Jing Wang, and Zhengmei Xu</i>	
Discrete Manifold-Regularized Collaborative Filtering for Large-Scale Recommender Systems . . . . .	513
<i>Deming Zhai, Ao Li, Yang Li, Yang Liu, Guojun Liu, Xianming Liu, and Maozu Guo</i>	
Multiscale Cascaded Scene-Specific Convolutional Neural Networks for Background Subtraction . . . . .	524
<i>Jian Liao, Guanjun Guo, Yan Yan, and Hanzi Wang</i>	
A Reference Resource Based End-to-End Image Compression Scheme . . . . .	534
<i>Wenbin Yin, Xiaopeng Fan, Yunhui Shi, and Wangmeng Zuo</i>	
Context and Temporal Aware Attention Model for Flood Prediction . . . . .	545
<i>Zhaoyang Liu, Yirui Wu, Yukai Ding, Jun Feng, and Tong Lu</i>	

Hand Pose Estimation with Attention-and-Sequence Network . . . . .	556
<i>Tianping Hu, Wenhai Wang, and Tong Lu</i>	
None Ghosting Artifacts Stitching Based on Depth Map for Light Field Image . . . . .	567
<i>Wenyuan Zhang, Shengyao Zhao, Wei Zhou, and Zhibo Chen</i>	
Adaptive Hierarchical Motion-Focused Model for Video Prediction. . . . .	579
<i>Min Tang, Wenmin Wang, Xiongtao Chen, and Yifeng He</i>	
Subjective Quality Assessment of Stereoscopic Omnidirectional Image . . . . .	589
<i>Jiahua Xu, Chaoyi Lin, Wei Zhou, and Zhibo Chen</i>	
A Dual-Network Based Super-Resolution for Compressed High Definition Video . . . . .	600
<i>Longtao Feng, Xinfeng Zhang, Xiang Zhang, Shanshe Wang, Ronggang Wang, and Siwei Ma</i>	
Visual Dialog with Multi-turn Attentional Memory Network . . . . .	611
<i>Dejiang Kong and Fei Wu</i>	
DT-3DResNet-LSTM: An Architecture for Temporal Activity Recognition in Videos . . . . .	622
<i>Li Yao and Ying Qian</i>	
Mutiple Transfer Net with Region Ensemble for Deep Hand Pose Estimation . . . . .	633
<i>Haoqian Wang, Da Li, and Xingzheng Wang</i>	
Parallelized Contour Based Depth Map Coding in DIBR . . . . .	643
<i>Wenxin Yu, Yibo Fan, Minghui Wang, Gang He, Gang He, Zhuo Yang, and Zhiqiang Zhang</i>	
Dual Subspaces with Adversarial Learning for Cross-Modal Retrieval . . . . .	654
<i>Yaxian Xia, Wenmin Wang, and Liang Han</i>	
<b>Special Session</b>	
Cross-Media Feature Learning Framework with Semi-supervised Graph Regularization. . . . .	667
<i>Tingting Qi, Hong Zhang, and Gang Dai</i>	
A Rapid Scene Depth Estimation Model Based on Underwater Light Attenuation Prior for Underwater Image Restoration . . . . .	678
<i>Wei Song, Yan Wang, Dongmei Huang, and Dian Tjondronegoro</i>	
Sequential Feature Fusion for Object Detection. . . . .	689
<i>Qiang Wang and Yahong Han</i>	

Discriminative Correlation Quantization for Cross-Modal Similarity Retrieval . . . . .	700
<i>Jun Tang, XuanMeng Li, Nian Wang, and Ming Zhu</i>	
GPU Assisted Towards Real-Time Reconstruction for Dual-Camera Compressive Hyperspectral Imaging . . . . .	711
<i>Shipeng Zhang, Lizhi Wang, Ying Fu, and Hua Huang</i>	
Getting More from One Attractive Scene: Venue Retrieval in Micro-videos . . . . .	721
<i>Jie Guo, Xiushan Nie, Chaoran Cui, Xiaoming Xi, Yuling Ma, and Yilong Yin</i>	
Simulating Bokeh Effect with Kinect. . . . .	734
<i>Yang Yang, Huiwen Bian, Yanhong Peng, Xiangjun Shen, and Heping Song</i>	
LFSF: Latent Factor-Based Similarity Framework and Its Application for Collaborative Recommendation . . . . .	744
<i>Liangliang He, Zhenhua Tan, Guibing Guo, Qiuyun Chang, and Danke Wu</i>	
Image Aesthetics Assessment Based on User Social Behavior. . . . .	755
<i>Huihui Liu, Chaoran Cui, Yuling Ma, Cheng Shi, Yongchao Xu, and Yilong Yin</i>	
Adaptive STBC Scheme for Soft Video Transmission with Multiple Antennas . . . . .	767
<i>Ya Guo, Anhong Wang, Haidong Wang, Suyue Li, and Jie Liang</i>	
Hypergraph-Based Discrete Hashing Learning for Cross-Modal Retrieval . . . .	776
<i>Dianjuan Tang, Hui Cui, Dan Shi, and Hua Ji</i>	
Improve Predictive Accuracy by Identifying Collusions in P2P Recommender Systems . . . . .	787
<i>Qiuyun Chang, Zhenhua Tan, and Guangming Yang</i>	
Multi-graph Regularized Deep Auto-Encoders for Multi-view Image Representation. . . . .	797
<i>Jiaying Fang, Yongzhao Zhan, and Xiangjun Shen</i>	
Discrete Semi-supervised Multi-label Learning for Image Classification . . . .	808
<i>Liang Xie, Lang He, Haohao Shu, and Shengyuan Hu</i>	
Multispectral Foreground Detection via Robust Cross-Modal Low-Rank Decomposition . . . . .	819
<i>Aihua Zheng, Yumiao Zhao, Chenglong Li, Jin Tang, and Bin Luo</i>	

Leveraging User Personality and Tag Information for One Class	
Collaborative Filtering . . . . .	830
<i>Jianshan Sun, Deyuan Ren, and Dong Xu</i>	
Enhanced Linear Discriminant Canonical Correlation Analysis	
for Cross-modal Fusion Recognition . . . . .	841
<i>Chengnian Yu, Huabin Wang, Xin Liu, and Liang Tao</i>	
Spatial-Temporal Attention for Action Recognition . . . . .	854
<i>Dengdi Sun, Hanqing Wu, Zhuanlian Ding, Bin Luo, and Jin Tang</i>	
Prediction Method of Parking Space Based on Genetic	
Algorithm and RNN . . . . .	865
<i>Jilun Qiu, Jianrong Tian, Haipeng Chen, and Xuwang Lu</i>	
Perceptual Image Dehazing Based on Generative Adversarial Learning . . . . .	877
<i>Fangfang Wu, Yifan Li, Jianwen Han, Weisheng Dong, and Guangming Shi</i>	
<b>Author Index . . . . .</b>	<b>889</b>

## Contents – Part II

### Poster Papers

Enhancing Low-Light Images with JPEG Artifact Based on Image Decomposition . . . . .	3
<i>Chenmin Xu, Shijie Hao, Yanrong Guo, and Richang Hong</i>	
Depth Estimation from Monocular Images Using Dilated Convolution and Uncertainty Learning . . . . .	13
<i>Haojie Ma, Yinzhang Ding, Lianghao Wang, Ming Zhang, and Dongxiao Li</i>	
Enhancing Feature Correlation for Bi-Modal Group Emotion Recognition . . . . .	24
<i>Ningjie Liu, Yuchun Fang, and Yike Guo</i>	
Frame Rate Conversion Based High Efficient Compression Method for Video Satellite . . . . .	35
<i>Xu Wang, Ruimin Hu, and Jing Xiao</i>	
Spectral-Spatial Hyperspectral Image Classification via Adaptive Total Variation Filtering . . . . .	45
<i>Bing Tu, Jinping Wang, Xiaofei Zhang, Siyuan Huang, and Guoyun Zhang</i>	
Convolutional Neural Network Based Inter-Frame Enhancement for 360-Degree Video Streaming . . . . .	57
<i>Yaru Li, Li Yu, Chunyu Lin, Yao Zhao, and Moncef Gabbouj</i>	
Robust and Index-Compatible Deep Hashing for Accurate and Fast Image Retrieval . . . . .	67
<i>Jing Liu, Dayan Wu, Wanqian Zhang, Bo Li, and Weiping Wang</i>	
Self-supervised GAN for Image Generation by Correlating Image Channels . . . . .	78
<i>Sheng Qian, Wen-ming Cao, Rui Li, Si Wu, and Hau-san Wong</i>	
Deformable Point Cloud Recognition Using Intrinsic Function and Deep Learning . . . . .	89
<i>Zhenzhong Kuang, Jun Yu, Suguo Zhu, Zongmin Li, and Jianping Fan</i>	
Feature Synthesization for Real-Time Pedestrian Detection in Urban Environment . . . . .	102
<i>Wenhua Fang, Jun Chen, Tao Lu, and Ruimin Hu</i>	

Enhancing Person Retrieval with Joint Person Detection, Attribute Learning, and Identification . . . . .	113
<i>Jianwen Wu, Ye Zhao, and Xueliang Liu</i>	
End-To-End Learning for Action Quality Assessment . . . . .	125
<i>Yongjun Li, Xiujuan Chai, and Xilin Chen</i>	
CGANs Based User Preferred Photorealistic Re-stylization of Social Image . . . . .	135
<i>Zhen Li, Meng Yuan, Jie Nie, Lei Huang, and Zhiqiang Wei</i>	
Cross-Modal Event Retrieval: A Dataset and a Baseline Using Deep Semantic Learning . . . . .	147
<i>Runwei Situ, Zhenguo Yang, Jianming Lv, Qing Li, and Wenyin Liu</i>	
Retinal Vessel Segmentation via Multiscaled Deep-Guidance . . . . .	158
<i>Rui Xu, Guiliang Jiang, Xinchen Ye, and Yen-Wei Chen</i>	
Image Synthesis with Aesthetics-Aware Generative Adversarial Network . . . . .	169
<i>Rongjie Zhang, Xueliang Liu, Yanrong Guo, and Shijie Hao</i>	
Hyperspectral Image Classification Using Nonnegative Sparse Spectral Representation and Spatial Regularization . . . . .	180
<i>Xian-Hua Han, Jian Wang, Jian De Sun, and Yen-Wei Chen</i>	
Adaptive Aggregation Network for Face Hallucination. . . . .	190
<i>Jin Guo, Jun Chen, Zhen Han, Han Liu, Zhongyuan Wang, and Ruimin Hu</i>	
Multi-decoder Based Co-attention for Image Captioning . . . . .	200
<i>Zhen Sun, Xin Lin, Zhaojun Wang, Yi Ji, and Chunping Liu</i>	
Simultaneous Occlusion Handling and Optical Flow Estimation . . . . .	211
<i>Song Wang and Zengfu Wang</i>	
Handwritten Chinese Character Recognition Based on Domain-Specific Knowledge . . . . .	221
<i>Qian Liu, Danqing Wang, Hong Lu, and Chaopeng Li</i>	
Attention to Refine Through Multi Scales for Semantic Segmentation . . . . .	232
<i>Shiqi Yang and Gang Peng</i>	
Frame Segmentation Networks for Temporal Action Localization . . . . .	242
<i>Ke Yang, Peng Qiao, Qiang Wang, Shijie Li, Xin Niu, Dongsheng Li, and Yong Dou</i>	
Stereo Matching Based on Density Segmentation and Non-Local Cost Aggregation . . . . .	253
<i>Jianning Du, Yanbing Xue, Hua Zhang, and Zan Gao</i>	

Single Image Super Resolution Using Local and Non-local Priors . . . . .	264
<i>Tianyi Li, Kan Chang, Caiwang Mo, Xueyu Zhang, and Tuanfa Qin</i>	
Plenoptic Image Compression via Simplified Subaperture Projection . . . . .	274
<i>Haixu Han, Jin Xin, and Qionghai Dai</i>	
Gaze Aware Deep Learning Model for Video Summarization . . . . .	285
<i>Jiaxin Wu, Sheng-hua Zhong, Zheng Ma, Stephen J. Heinen, and Jianmin Jiang</i>	
Three-Stream Action Tubelet Detector for Spatiotemporal Action Detection in Videos . . . . .	296
<i>Yutang Wu, Hanli Wang, and Qinyu Li</i>	
Multi-person/Group Interactive Video Generation . . . . .	307
<i>Zhan Wang, Taiping Yao, Huawei Wei, Shanyan Guan, and Bingbing Ni</i>	
Image Denoising Based on Non-parametric ADMM Algorithm. . . . .	318
<i>Xinchen Ye, Mingliang Zhang, Qianyu Yan, Xin Fan, and Zhongxuan Luo</i>	
Satellite Image Scene Classification via ConvNet With Context Aggregation . . . . .	329
<i>Zhao Zhou, Yingbin Zheng, Hao Ye, Jian Pu, and Gufei Sun</i>	
VAL: Visual-Attention Action Localizer . . . . .	340
<i>Xiaomeng Song and Yahong Han</i>	
Incremental Nonnegative Matrix Factorization with Sparseness Constraint for Image Representation . . . . .	351
<i>Jing Sun, Zhihui Wang, Haojie Li, and Fuming Sun</i>	
A Data-Driven No-Reference Image Quality Assessment via Deep Convolutional Neural Networks . . . . .	361
<i>Yezhao Fan, Yuchen Zhu, Guangtao Zhai, Jia Wang, and Jing Liu</i>	
An Asian Face Dataset and How Race Influences Face Recognition . . . . .	372
<i>Zhangyang Xiong, Zhongyuan Wang, Changqing Du, Rong Zhu, Jing Xiao, and Tao Lu</i>	
Towards Stereo Matching Algorithm Based on Multi-matching Primitive Fusion . . . . .	384
<i>Renpeng Du, Fuming Sun, and Haojie Li</i>	
An Effective Image Detection Algorithm for USM Sharpening Based on Pixel-Pair Histogram . . . . .	396
<i>Hang Gao, Mengting Hu, Tiegang Gao, and Renhong Cheng</i>	

Skeletal Bone Age Assessment Based on Deep Convolutional Neural Networks . . . . .	408
<i>Pengyi Hao, Yijing Chen, Sharon Chokuwa, Fuli Wu, and Cong Bai</i>	
Panoramic Image Saliency Detection by Fusing Visual Frequency Feature and Viewing Behavior Pattern . . . . .	418
<i>Ying Ding, Yanwei Liu, Jinxia Liu, Kedong Liu, Liming Wang, and Zhen Xu</i>	
Coupled Learning for Image Generation and Latent Representation Inference Using MMD . . . . .	430
<i>Sheng Qian, Wen-ming Cao, Rui Li, Si Wu, and Hau-san Wong</i>	
Enhanced Discriminative Generative Adversarial Network for Face Super-Resolution . . . . .	441
<i>Xi Yang, Tao Lu, Jiaming Wang, Yanduo Zhang, Yuntao Wu, Zhongyuan Wang, and Zixiang Xiong</i>	
Image Splicing Detection Based on the Q-Markov Features . . . . .	453
<i>Hongda Sheng, Xuanjing Shen, and Zenan Shi</i>	
Snapshot Multiplexed Imaging Based on Compressive Sensing . . . . .	465
<i>Ying Fu, Chen Sun, Lizhi Wang, and Hua Huang</i>	
Partially Annotated Gastric Pathological Image Classification . . . . .	476
<i>Yanping Cui, Zhangcheng Wang, Guanzhen Yu, and Xinmei Tian</i>	
Facial Expression Recognition Based on Local Double Binary Mapped Pattern . . . . .	487
<i>Chunjian Yang, Min Hu, Yaqin Zheng, Xiaohua Wang, Yong Gao, and Hao Wu</i>	
Pixel-Copy Prediction Based Lossless Reference Frame Compression . . . . .	498
<i>Weizhe Xu, Fangfa Fu, Binglei Lou, Yao Wang, and Jinxiang Wang</i>	
Robust Underwater Fish Classification Based on Data Augmentation by Adding Noises in Random Local Regions . . . . .	509
<i>Guanqun Wei, Zhiqiang Wei, Lei Huang, Jie Nie, and Huanhuan Chang</i>	
Study on User Experience of Panoramic Images on Different Immersive Devices . . . . .	519
<i>Shilin Wu, Zhibo Chen, Ning Liao, and Xiaoming Chen</i>	
Environmental Sound Classification Based on Multi-temporal Resolution Convolutional Neural Network Combining with Multi-level Features . . . . .	528
<i>Boqing Zhu, Kele Xu, Dezhi Wang, Lilun Zhang, Bo Li, and Yuxing Peng</i>	

Discriminative Dictionary Learning Based on Sample Diversity for Face Recognition . . . . .	538
<i>Yuhong Wang, Shigang Liu, Yali Peng, and Han Cao</i>	
Spatial Attention Network for Head Detection . . . . .	547
<i>Rongchun Li, Biao Zhang, Zhen Huang, Xiang Zhao, Peng Qiao, and Yong Dou</i>	
Arbitrary Perspective Crowd Counting via Multi Convolutional Kernels. . . . .	558
<i>Minghui Yu, Teng Li, Jun Zhang, Jiaxing Li, Feng Yuan, and Ran Li</i>	
3D Shape Co-segmentation by Combining Sparse Representation with Extreme Learning Machine. . . . .	570
<i>Hongyan Li, Zhengxing Sun, Qian Li, and Jinlong Shi</i>	
RS-MSSF Frame: Remote Sensing Image Classification Based on Extraction and Fusion of Multiple Spectral-Spatial Features . . . . .	582
<i>Hanane Teffahi and Hongxun Yao</i>	
Hierarchical Image Segmentation Based on Multi-feature Fusion and Graph Cut Optimization. . . . .	596
<i>Anqi Hu, Zhengxing Sun, Yuqi Guo, and Qian Li</i>	
A Sound Image Reproduction Model Based on Personalized Weight Vectors. . . . .	607
<i>Jiaxi Zheng, Weiping Tu, Xiong Zhang, Wanzhao Yang, Shuangxing Zhai, and Chen Shen</i>	
Reconstruction of Multi-view Video Based on GAN . . . . .	618
<i>Song Li, Chengdong Lan, and Tiesong Zhao</i>	
Contextual Attention Model for Social Recommendation . . . . .	630
<i>Hongfeng Bao, Le Wu, and Peijie Sun</i>	
Cracked Tongue Recognition Based on Deep Features and Multiple- Instance SVM. . . . .	642
<i>Yushan Xue, Xiaoqiang Li, Qing Cui, Lu Wang, and Pin Wu</i>	
Multitask Learning for Chinese Named Entity Recognition. . . . .	653
<i>Qun Zhang, Zhenzhen Li, Dawei Feng, Dongsheng Li, Zhen Huang, and Yuxing Peng</i>	
Sparse-Region Net: Local-Enhanced Facial Depthmap Reconstruction from a Single Face Image . . . . .	663
<i>Haoqian Wang, Shuhao Zhang, Xingzheng Wang, and Yongbing Zhang</i>	

Entropy Based Boundary-Eliminated Pseudo-Inverse Linear Discriminant for Speech Emotion Recognition . . . . .	674
<i>Dongdong Li, Linyu Sun, Zhe Wang, and Jing Zhang</i>	
An Improved C-COT Based Visual Tracking Scheme to Weighted Fusion of Diverse Features . . . . .	686
<i>Lifang Wu, Qi Wang, Dezhong Xu, and Meng Jian</i>	
Focal Liver Lesion Classification Based on Tensor Sparse Representations of Multi-phase CT Images . . . . .	696
<i>Jian Wang, Xian-Hua Han, Jiande Sun, Lanfen Lin, Hongjie Hu, Yingying Xu, Qingqing Chen, and Yen-Wei Chen</i>	
Joint Learning of LSTMs-CNN and Prototype for Micro-video Venue Classification . . . . .	705
<i>Wei Liu, Xianglin Huang, Gang Cao, Gege Song, and Lifang Yang</i>	
Spatial Pixels Selection and Inter-frame Combined Likelihood Based Observation for 60 fps 3D Tracking of Twelve Volleyball Players on GPU . . . . .	716
<i>Yiming Zhao, Xina Cheng, and Takeshi Ikenaga</i>	
An Interactive Light Field Video System with User-Dependent View Selection and Coding Scheme . . . . .	727
<i>Bing Wang, Qiang Peng, Xiao Wu, Eric Wang, and Wei Xiang</i>	
Deep Residual Net Based Compact Feature Representation for Image Retrieval . . . . .	737
<i>Cong Bai, Jian Chen, Qing Ma, Zhi Liu, and Shengyong Chen</i>	
Sea Ice Change Detection from SAR Images Based on Canonical Correlation Analysis and Contractive Autoencoders . . . . .	748
<i>Xiao Wang, Feng Gao, Junyu Dong, and Shengke Wang</i>	
Pedestrian Attributes Recognition in Surveillance Scenarios with Hierarchical Multi-task CNN Models . . . . .	758
<i>Wenhua Fang, Jun Chen, Tao Lu, and Ruimin Hu</i>	
Re-Ranking Person Re-Identification with Forward and Reverse Sorting Constraints . . . . .	768
<i>Meibin Qi, Yonglai Wei, Kunpeng Gao, Jianguo Jiang, and Jingjing Wu</i>	
Content-Based Co-Factorization Machines: Modeling User Decisions in Event-Based Social Networks . . . . .	780
<i>Yilin Zhao, Yuan He, and Hong Li</i>	

Image-into-Image Steganography Using Deep Convolutional Network . . . . .	792
<i>Pin Wu, Yang Yang, and Xiaoqiang Li</i>	
Deep Forest with Local Experts Based on ELM for Pedestrian Detection . . . . .	803
<i>Wenbo Zheng, Sisi Cao, Xin Jin, Shaocong Mo, Han Gao, Yili Qu,     Chengfeng Zheng, Sijie Long, Jia Shuai, Zefeng Xie, Wei Jiang,     Hang Du, and Yongsheng Zhu</i>	
AdvRefactor: A Resampling-Based Defense Against Adversarial Attacks . . . . .	815
<i>Jianguo Jiang, Boquan Li, Min Yu, Chao Liu, Jianguo Sun,     Weiqing Huang, and Zhiqiang Lv</i>	
<b>Author Index</b> . . . . .	827

## Contents – Part III

### Poster Papers

MFDCNN: A Multimodal Fusion DCNN Framework for Object Detection and Segmentation . . . . .	3
<i>Feng Zhou, Yong Hu, and Xukun Shen</i>	
Mixup-Based Acoustic Scene Classification Using Multi-channel Convolutional Neural Network . . . . .	14
<i>Kele Xu, Dawei Feng, Haibo Mi, Boqing Zhu, Dezhi Wang, Lilun Zhang, Hengxing Cai, and Shuwen Liu</i>	
Multimodal Fusion for Traditional Chinese Painting Generation . . . . .	24
<i>Sanbi Luo, Si Liu, Jizhong Han, and Tao Guo</i>	
Optimal Feature Selection for Saliency Seed Propagation in Low Contrast Images . . . . .	35
<i>Nan Mu, Xin Xu, and Xiaolong Zhang</i>	
New Fusion Based Enhancement for Text Detection in Night Video Footage . . . . .	46
<i>Chao Zhang, Palaiahnakote Shivakumara, Minglong Xue, Liping Zhu, Tong Lu, and Umapada Pal</i>	
Deformable Feature Pyramid Network for Ship Recognition . . . . .	57
<i>Yao Ding, Yichen Zhang, Yanyun Qu, and Cuihua Li</i>	
Learning Hierarchical Context for Action Recognition in Still Images . . . . .	67
<i>Haisheng Zhu, Jian-Fang Hu, and Wei-Shi Zheng</i>	
iMakeup: Makeup Instructional Video Dataset for Fine-Grained Dense Video Captioning . . . . .	78
<i>Xiaozhu Lin, Qin Jin, Shizhe Chen, Yuqing Song, and Yida Zhao</i>	
Embedded Temporal Visualization of Collaboration Networks . . . . .	89
<i>Li Zhang, Ming Jing, and Yongli Zhou</i>	
Particle Swarm Programming-Based Interactive Content-Based Image Retrieval . . . . .	99
<i>Xiao-Hui Yang, Chen-Xi Tian, Fei-Ya Lv, Jing Zhang, and Zheng-Jun Zha</i>	

Video Clip Growth: A General Algorithm for Multi-view Video Summarization . . . . .	112
<i>Gang Pan, Xingming Qu, Liangfu Lv, Shuai Guo, and Di Sun</i>	
Cross-Media Retrieval via Deep Semantic Canonical Correlation Analysis and Logistic Regression . . . . .	123
<i>Hong Zhang and Liangmeng Xia</i>	
3D Global Trajectory and Multi-view Local Motion Combined Player Action Recognition in Volleyball Analysis . . . . .	134
<i>Yang Liu, Shuyi Huang, Xina Cheng, and Takeshi Ikenaga</i>	
Underwater Image Enhancement by the Combination of Dehazing and Color Correction . . . . .	145
<i>Wenhai Zhang, Ge Li, and Zhenqiang Ying</i>	
A Novel No-Reference QoE Assessment Model for Frame Freezing of Mobile Video . . . . .	156
<i>Bing Wang, Qiang Peng, Xiao Wu, Eric Wang, and Wei Xiang</i>	
Saliency Detection Based on Deep Learning and Graph Cut . . . . .	166
<i>Hu Lu, Yuqing Song, Jun Sun, and Xingpei Xu</i>	
Rethinking Fusion Baselines for Multi-modal Human Action Recognition . . . . .	178
<i>Hongda Jiang, Yanghao Li, Sijie Song, and Jiaying Liu</i>	
A DCT-JND Profile for Disorderly Concealment Effect . . . . .	188
<i>Hongkui Wang, Li Yu, Tiansong Li, Mengting Fan, and Haibing Yin</i>	
Breast Ultrasound Image Classification and Segmentation Using Convolutional Neural Networks . . . . .	200
<i>Xiaozheng Xie, Faqiang Shi, Jianwei Niu, and Xiaolan Tang</i>	
Intra-Image Region Context for Image Captioning . . . . .	212
<i>Shihao Wang, Hong Mo, Yue Xu, Wei Wu, and Zhong Zhou</i>	
Viewpoint Quality Evaluation for Augmented Virtual Environment . . . . .	223
<i>Ming Meng, Yi Zhou, Chong Tan, and Zhong Zhou</i>	
A Flower Classification Framework Based on Ensemble of CNNs . . . . .	235
<i>Buzhen Huang, Youpeng Hu, Yaoqi Sun, Xinhong Hao, and Chenggang Yan</i>	
Image Translation Between High-Resolution Remote Sensing Optical and SAR Data Using Conditional GAN . . . . .	245
<i>Xin Niu, Di Yang, Ke Yang, Hengyue Pan, and Yong Dou</i>	
A Combined Strategy of Hand Tracking for Desktop VR . . . . .	256
<i>Shufang Lu, Li Cai, Xuefeng Ding, and Fei Gao</i>	

Super-Resolution of Text Image Based on Conditional Generative Adversarial Network . . . . .	270
<i>Yuyang Wang, Wenjun Ding, and Feng Su</i>	
Latitude-Based Visual Attention in 360-Degree Video Display . . . . .	282
<i>Huiwen Huang, Yiwen Xu, Jinling Chen, Yanjie Song, and Tiesong Zhao</i>	
Branched Convolutional Neural Networks for Face Alignment . . . . .	291
<i>Meilu Zhu, Daming Shi, Songkui Chen, and Junbin Gao</i>	
A Robust Approach for Scene Text Detection and Tracking in Video . . . . .	303
<i>Yang Wang, Lan Wang, and Feng Su</i>	
Improving Intra Block Copy with Low-Rank Based Rectification for Urban Building Scenes . . . . .	315
<i>Qijun Wang</i>	
Assembly-Based 3D Modeling Using Graph Convolutional Neural Networks . . . . .	326
<i>Xufeng Lang, Zhengxing Sun, Qian Li, and Jinlong Shi</i>	
Blur Measurement for Partially Blurred Images with Saliency Constrained Global Refinement . . . . .	338
<i>Xianyong Fang, Qingqing Guo, Cheng Ding, Linbo Wang, and Zhigang Deng</i>	
SCAN: Spatial and Channel Attention Network for Vehicle Re-Identification . . . . .	350
<i>Shangzhi Teng, Xiaobin Liu, Shiliang Zhang, and Qingming Huang</i>	
Speech Data Enhancement Based on Hybrid Neural Network . . . . .	362
<i>Xinyue Cao, Xiao Sun, and Fuji Ren</i>	
Unified Data Hiding and Scrambling Method for JPEG Images . . . . .	373
<i>Zhaoxia Yin, Youzhi Xiang, Zhenxing Qian, and Xinpeng Zhang</i>	
Cross-Modal Retrieval with Discriminative Dual-Path CNN . . . . .	384
<i>Haoran Wang, Zhong Ji, and Yanwei Pang</i>	
Deep Learning for Ovarian Tumor Classification with Ultrasound Images . . . . .	395
<i>Chengzhu Wu, Yamei Wang, and Feng Wang</i>	
Arbitrary Image Emotionalizing with Style Transfer . . . . .	407
<i>Xing Luo, Jiajia Zhang, Guang Wu, and Yanxiang Chen</i>	
Text-to-Image Synthesis via Visual-Memory Creative Adversarial Network . . . . .	417
<i>Shengyu Zhang, Hao Dong, Wei Hu, Yike Guo, Chao Wu, Di Xie, and Fei Wu</i>	

Sequence-Based Recommendation with Bidirectional LSTM Network . . . . .	428
<i>Hailin Fu, Jianguo Li, Jiemin Chen, Yong Tang, and Jia Zhu</i>	
Natural Scene Text Detection Based on Deep Supervised Fully Convolutional Network . . . . .	439
<i>Nan Zhang, Xiaoning Jin, and Xiaowei Li</i>	
MFM: A Multi-level Fused Sequence Matching Model for Candidates Filtering in Multi-paragraphs Question-Answering . . . . .	449
<i>Yang Liu, Zhen Huang, Minghao Hu, Shuyang Du, Yuxing Peng, Dongsheng Li, and Xu Wang</i>	
Multiview CNN Model for Sensor Fusion Based Vehicle Detection . . . . .	459
<i>Zhenchao Ouyang, Chunyuan Wang, Yu Liu, and Jianwei Niu</i>	
Color Image Super Resolution by Using Cross-Channel Correlation . . . . .	471
<i>Kan Chang, Caiwang Mo, Minghong Li, Tianyi Li, and Tuanfa Qin</i>	
Stereoscopic Video Quality Prediction Based on End-to-End Dual Stream Deep Neural Networks . . . . .	482
<i>Wei Zhou, Zhibo Chen, and Weiping Li</i>	
Fast and Robust 3D Numerical Method for Coronary Artery Vesselness Diffusion from CTA Images . . . . .	493
<i>Hengfei Cui</i>	
Multi-view Viewpoint Assessment for Architectural Photos . . . . .	503
<i>Jingwu He, Linbo Wang, Wanqing Zhao, Yang Zhang, Xu Han, Chenghao Guo, and Yanwen Guo</i>	
Underwater Image Enhancement Using Stacked Generative Adversarial Networks . . . . .	514
<i>Xinchen Ye, Hongcan Xu, Xiang Ji, and Rui Xu</i>	
An Efficient Complexity Reduction Scheme for CU Partitioning in Quality Scalable HEVC . . . . .	525
<i>Bo Liu, Qiang Li, and Jianlin Song</i>	
Extended Multi-column Convolutional Neural Network for Crowd Counting . . . . .	533
<i>Zhiyuan Xue, Jie Shen, Xin Xiong, Chong Yuan, and Yinlong Bian</i>	
ECG Classification Algorithm Using Shape Context . . . . .	541
<i>Xin Liu and Zhiqiang Wei</i>	
Small Object Detection Using Deep Feature Pyramid Networks . . . . .	554
<i>Zhenwen Liang, Jie Shao, Dongyang Zhang, and Lianli Gao</i>	

Dataset Refinement for Convolutional Neural Networks via Active Learning . . . . .	565
<i>Siwen Liu, Rong Zhu, Yimin Luo, Zhongyuan Wang, and Liguo Zhou</i>	
Gaze Information Channel . . . . .	575
<i>Lijing Ma, Mateu Sbert, and Miquel Feixas</i>	
A Multi-information Fusion Model for Shop Recommendation Based on Deep Learning . . . . .	586
<i>Jianwei Niu and Yanyan Guo</i>	
An Improved SKFCM-CV Whole Heart MR Image Segmentation Algorithm . . . . .	596
<i>He Wang, Jing Zhang, Jie Wang, XiaoDong Zhang, Hong Teng, and TianChi Zhang</i>	
An Image Splicing Localization Algorithm Based on SLIC and Image Features . . . . .	608
<i>Haipeng Chen, Chaoran Zhao, Zenan Shi, and Fuxiang Zhu</i>	
Effect of Checkerboard on the Accuracy of Camera Calibration . . . . .	619
<i>Shengju Yu, Ran Zhu, Li Yu, and Wei Ai</i>	
Weighted Multi-feature Fusion Algorithm for Fine-Grained Image Retrieval . . . . .	630
<i>Zhihui Wang, Shijie Wang, Hong Wang, Haojie Li, and Chengming Li</i>	
Convolutional Neural Networks Based Soft Video Broadcast . . . . .	641
<i>Wenbin Yin, Xiaopeng Fan, and Yunhui Shi</i>	
Image Generation for Printed Character by Representation Learning . . . . .	651
<i>Kangzheng Gu, Jiansong Bai, Qichen Zhang, Junjie Peng, and Wenqiang Zhang</i>	
CRNet: Classification and Regression Neural Network for Facial Beauty Prediction . . . . .	661
<i>Lu Xu, Jinhai Xiang, and Xiaohui Yuan</i>	
Stitches Generation for Random-Needle Embroidery Based on Markov Chain Model . . . . .	672
<i>Chen Ma, Zhengxing Sun, Hao Wu, and Yuqi Guo</i>	
Image Recognition with Deep Learning for Library Book Identification . . . . .	684
<i>Kaichen Tang, Hongtao Lu, and Xiaohua Shi</i>	
Learning Affective Features Based on VIP for Video Affective Content Analysis . . . . .	697
<i>Yingying Zhu, Min Tong, Tinglin Huang, Zhenkun Wen, and Qi Tian</i>	

Research on Multitask Deep Learning Network for Semantic Segmentation and Object Detection . . . . .	708
<i>Ting Rui, Feng Xiao, Jian Tang, Fukai Zhang, Chengsong Yang, and Min Liu</i>	
Learning to Match Using Siamese Network for Object Tracking . . . . .	719
<i>Chaopeng Li, Hong Lu, Jian Jiao, and Wenqiang Zhang</i>	
Macropixel Based Fast Motion Estimation for Plenoptic Video Compression . . . . .	730
<i>Lingjun Li, Xin Jin, Haixu Han, and Qionghai Dai</i>	
Text to Region: Visual-Word Guided Saliency Detection . . . . .	740
<i>Tengfei Xing, Zhaohui Wang, Jianyu Yang, Yi Ji, and Chunping Liu</i>	
Text-Guided Dual-Branch Attention Network for Visual Question Answering . . . . .	750
<i>Mengfei Li, Li Gu, Yi Ji, and Chunping Liu</i>	
A Fast Zero-Quantized Percentage Model for Video Coding with RDO Quantization . . . . .	761
<i>Haoyun Yang, Haibing Yin, and Xiaofeng Huang</i>	
Partially Separated Networks for Person Search . . . . .	772
<i>Chuanchuan Chen, Jingbo Fan, Yuesheng Zhu, and Guibo Luo</i>	
Action Tree Convolutional Networks: Skeleton-Based Human Action Recognition . . . . .	783
<i>Wenjie Liu, Ziyi Zhang, Bing Han, and Chenhui Zhu</i>	
Research of Secret Sharing Digital Watermarking Scheme Based on Spread Spectrum Algorithm and PCA . . . . .	793
<i>Xiaohong Li, Dawei Niu, Shu Zhan, and Wubiao Chen</i>	
Convolutional Neural Networks Based Image Classification for Himawari-8 Stationary Satellite Imagery . . . . .	804
<i>Jinglin Zhang, Pu Liu, Jianwei Zheng, and Cong Bai</i>	
<b>Author Index . . . . .</b>	<b>811</b>