

## Contents – Part II

### Computer Vision and Pattern Recognition

Boosting CNN-Based Pedestrian Detection via 3D LiDAR Fusion in Autonomous Driving . . . . .	3
<i>Jian Dou, Jianwu Fang, Tao Li, and Jianru Xue</i>	
Actual License Plate Images Clarity Classification via Sparse Representation. . . . .	14
<i>Yudong Cheng, Feng Liu, Zongliang Gan, and Ziguan Cui</i>	
Non-rigid 3D Object Retrieval with a Learned Shape Descriptor. . . . .	24
<i>Xiangfu Shi, Jieyu Zhao, Long Zhang, and Xulun Ye</i>	
Adaptive Patch Quantization for Histogram-Based Visual Tracking . . . . .	38
<i>Lvran Chen, Huicheng Zheng, Zijian Lin, Dajun Lin, and Bo Ke</i>	
Neural Image Caption Generation with Global Feature Based Attention Scheme . . . . .	51
<i>Yongzhuang Wang and Hongkai Xiong</i>	
Activation-Based Weight Significance Criterion for Pruning Deep Neural Networks. . . . .	62
<i>Jiayu Dong, Huicheng Zheng, and Lina Lian</i>	
Local and Global Sparsity for Deep Learning Networks. . . . .	74
<i>Long Zhang, Jieyu Zhao, Xiangfu Shi, and Xulun Ye</i>	
Object Detection by Learning Oriented Gradients . . . . .	86
<i>Jiajie Chen, Huicheng Zheng, Na He, Ziquan Luo, and Rui Zhu</i>	
Unsupervised Representation Learning with Deep Convolutional Neural Network for Remote Sensing Images. . . . .	97
<i>Yang Yu, Zhiqiang Gong, Ping Zhong, and Jiaxin Shan</i>	
Image Captioning with Object Detection and Localization . . . . .	109
<i>Zhongliang Yang, Yu-Jin Zhang, Sadaqat ur Rehman, and Yongfeng Huang</i>	
Image Set Representation with $L_1$ -Norm Optimal Mean Robust Principal Component Analysis . . . . .	119
<i>Youxia Cao, Bo Jiang, Jin Tang, and Bin Luo</i>	

Object Tracking Based on Multi-modality Dictionary Learning . . . . .	129
<i>Jing Wang, Hong Zhu, Shan Xue, and Jing Shi</i>	
Hardness Prediction for Object Detection Inspired by Human Vision . . . . .	139
<i>Yuwei Qiu, Huimin Ma, and Lei Gao</i>	
Orientation Estimation Network . . . . .	151
<i>Jie Sun, Wengang Zhou, and Houqiang Li</i>	
A Method for Detecting Surface Defects in Insulators Based on RPCA . . . . .	163
<i>Wei Hu, Hongyu Qi, Zhenbing Zhao, and Leilei Xu</i>	
A Dim Small Target Detection Method Based on Spatial-Frequency Domain Features Space . . . . .	174
<i>Jinqiu Sun, Danna Xue, Haisen Li, Yu Zhu, and Yanning Zhang</i>	

**Compression, Transmission, Retrieval**

An Algorithm for Tight Frame Grouplet to Compute Association Fields . . . .	187
<i>Jingwen Yan, Zhenguo Yuan, Tingting Xie, and Huimin Zhao</i>	
Adaptive Coding for Compressed Video Sensing . . . . .	197
<i>Jian Wu, Yongfang Wang, Yun Zhu, and Yuan Shuai</i>	
Deep Top Similarity Preserving Hashing for Image Retrieval . . . . .	206
<i>Qiang Li, Haiyan Fu, and Xiangwei Kong</i>	
A Fast CU Decision Algorithm in Inter Coding Based on Residual Analysis . . . . .	216
<i>Lanfang Dong and Li Wang</i>	
Feature-Based Facial Image Coding Method Using Wavelet Transform . . . . .	229
<i>Chuxi Yang, Yan Zhao, Shigang Wang, and Yuanyuan Liu</i>	
Video Content Caching and Delivery for Tri-Party Joint Profit Optimization . . . . .	239
<i>Congcong Zhai, Junni Zou, and Yunfei Zhang</i>	
Information Gain Product Quantization for Image Retrieval . . . . .	252
<i>Jingjia Chen, Yonghong Song, and Yuanlin Zhang</i>	
A Crop Disease Image Retrieval Method Based on the Improvement of Inverted Index . . . . .	262
<i>Yuan Yuan, Lei Chen, Miao Li, and Na Wu</i>	
A Novel Self-adaptive Defog Method Based on Bionic . . . . .	274
<i>Shi-ping Ma, Quan-He Li, Du-Yan Bi, and Ya-Yun Dong</i>	

Local Disparity Vector Derivation Scheme in 3D-AVS2 . . . . .	286
<i>Qi Mao, Shanshe Wang, and Siwei Ma</i>	

A Feature-Based Coding Algorithm for Face Image. . . . .	299
<i>Henan Li, Shigang Wang, Yan Zhao, Chuxi Yang, and Aobo Wang</i>	

## 5G Multimedia Communications

Video Quality Assessment Based on the Improved LSTM Model . . . . .	313
<i>Qiuxia Bao, Ruochen Huang, and Xin Wei</i>	

GECKO: Gamer Experience-Centric Bitrate Control Algorithm for Cloud Gaming . . . . .	325
<i>Yihao Ke, Guoqiao Ye, Di Wu, Yipeng Zhou, Edith Ngai, and Han Hu</i>	

A QoE-Aware Video Quality Guarantee Mechanism in 5G Network . . . . .	336
<i>Ruyan Wang, Yan Yang, and Dapeng Wu</i>	

Energy-Aware Fast Interest Forwarding for Multimedia Streaming over ICN 5G-D2D . . . . .	353
<i>Xingyan Chen, Mu Wang, Shijie Jia, and Changqiao Xu</i>	

## Artificial Intelligence

Stability Analysis of ECOC Kernel Machines . . . . .	369
<i>Aijun Xue, Xiaodan Wang, and Xiaolong Fu</i>	

Deep Convolutional Neural Network for Emotion Recognition Using EEG and Peripheral Physiological Signal . . . . .	385
<i>Wenqian Lin, Chao Li, and Shouqian Sun</i>	

Incremental Active Learning Method for Supervised ISOMAP . . . . .	395
<i>Guopeng Zhang, Rui Huang, and Junli Chen</i>	

USTB-Helloear: A Large Database of Ear Images Photographed Under Uncontrolled Conditions . . . . .	405
<i>Yi Zhang, Zhichun Mu, Li Yuan, Chen Yu, and Qing Liu</i>	

Survival-Oriented Reinforcement Learning Model: An Efficient and Robust Deep Reinforcement Learning Algorithm for Autonomous Driving Problem . . . . .	417
<i>Changkun Ye, Huimin Ma, Xiaoqin Zhang, Kai Zhang, and Shaodi You</i>	

Edge Detection Based on Primary Visual Pathway . . . . .	430
<i>Chao Lv, Yuelei Xu, Xulei Zhang, Shiping Ma, Shuai Li, Peng Xin, Mingning Zhu, and Hongqiang Ma</i>	

Multi-channel Satellite Cloud Image Fusion in the Shearlet Transform Domain and Its Influence on Typhoon Center Location . . . . .	440
<i>Changjiang Zhang, Yuan Chen, and Leiming Ma</i>	

**Biological and Medical Image Processing**

Parallel Regional Growth Marching Cubes: Efficient Surface Reconstruction Based on MPI. . . . .	455
<i>Xiaohui Wei, Xinyan Bao, Xiaoli Pang, and Haolong Cui</i>	

Shape Registration and Low-Rank for Multiple Image Segmentation . . . . .	466
<i>Wei Hua and Fei Chen</i>	

Efficient Statistical Shape Models-Based Image Segmentation Approach Using Deformable Simplex Meshes. . . . .	476
<i>Jinke Wang, Hongliang Zu, and Shinichi Tamura</i>	

An Artery/Vein Classification Method Based on Color and Vascular Structure Information. . . . .	487
<i>Dongmei Fu, Yang Liu, and Haosen Ma</i>	

Improved U-Net Model for Nerve Segmentation . . . . .	496
<i>Houlong Zhao and Nongliang Sun</i>	

ECG Waveform Extraction from Paper Records . . . . .	505
<i>Jian Wang, Yanwei Pang, Yuqing He, and Jing Pan</i>	

Automatic Classification of Focal Liver Lesion in Ultrasound Images Based on Sparse Representation . . . . .	513
<i>Weining Wang, Yizi Jiang, Tingting Shi, Longzhong Liu, Qinghua Huang, and Xiangmin Xu</i>	

Simultaneous Segmentation of Multiple Regions in 3D Bladder MRI by Efficient Convex Optimization of Coupled Surfaces . . . . .	528
<i>Xiao-pan Xu, Xi Zhang, Yang Liu, Qiang Tian, Guo-peng Zhang, Zeng-yue Yang, Hong-bing Lu, and Jing Yuan</i>	

**Color and Multispectral Processing**

Background Self-adapted Digital Camouflage Pattern Generation Algorithm for Fixed Target . . . . .	545
<i>Qin Lei, Duan Ze-wei, Hu Jiang-hua, Xu Wei-dong, and Zhang Xiang</i>	

Practical Bottom-up Golf Course Detection Using Multispectral Remote Sensing Imagery . . . . .	552
<i>Jingbo Chen, Chengyi Wang, Dongxu He, Jiansheng Chen, and Anzhi Yue</i>	
Efficient Decolorization via Perceptual Group Difference Enhancement . . . . .	560
<i>Hongchao Zhang and Shiguang Liu</i>	
A Spectral Unmixing Method Based on Co-Training . . . . .	570
<i>Qingyu Pang, Jing Yu, and Weidong Sun</i>	
A Novel Algorithm of Image Fusion Based on Non-subsampled Shearlet-Contrast Transform . . . . .	580
<i>Dongpeng Wu, Duyan Bi, Linyuan He, Shiping Ma, Zunlin Fan, Wenshan Ding, Liyang Wu, Shiping Wang, and Kun Liu</i>	
Tricolor Pre-equalization Deblurring for Underwater Image Enhancement. . . . .	590
<i>Xiaofan Sun, Hao Liu, Xinsheng Zhang, and Kailian Deng</i>	
Link Functions and Training-Based in Reflectance Reconstruction from RGB Images. . . . .	602
<i>Lijun Zhang, Jun Jiang, Jingjing Zhang, and Chen Wang</i>	
Multi-modal Image Registration Based on Modified-SURF and Consensus Inliers Recovery . . . . .	612
<i>Yanjia Chen, Xiuwei Zhang, Fei Li, and Yanning Zhang</i>	
<b>Author Index . . . . .</b>	<b>623</b>

Image and Graphics

9th International Conference, ICIG 2017, Shanghai,  
China, September 13-15, 2017, Revised Selected  
Papers, Part II

Zhao, Y.; Kong, X.; Taubmann, D. (Eds.)

2017, XVII, 629 p. 268 illus., Softcover

ISBN: 978-3-319-71588-9