

Table of Contents – Part II

Section IV: Image Processing and Analysis

Transferring Segmentation from Image to Image via Contextual Sparse Representation	1
<i>Shuangshuang Li, Yonghao He, Shiming Xiang, Lingfeng Wang, and Chunhong Pan</i>	
Fast Augmented Lagrangian Method for Image Smoothing with Hyper-Laplacian Gradient Prior	12
<i>Li Chen, Hongzhi Zhang, Dongwei Ren, David Zhang, and Wangmeng Zuo</i>	
Study on Distribution Coefficient in Regulation Services with Energy Storage System	22
<i>Shaojie Tan, Xinran Li, Ming Wang, Yawei Huang, Tingting Xu, and Xingting Cheng</i>	
All-Focused Light Field Image Rendering	32
<i>Rumin Zhang, Yu Ruan, Dijun Liu, and Zhang Youguang</i>	
Hyperspectral Image Unmixing Based on Sparse and Minimum Volume Constrained Nonnegative Matrix Factorization	44
<i>Denggang Li, Shutao Li, and Huali Li</i>	
An Adaptive Harris Corner Detection Algorithm for Image Mosaic	53
<i>Haixia Pan, Yanxiang Zhang, Chunlong Li, and Huafeng Wang</i>	
A Study of Ancient Ceramics Verification Based on Vision Methods	63
<i>Yunqi Tang, Jianwei Ding, and Wei Guo</i>	
A Two-Stage Blind Image Color Correction Using Color Cast Estimation	72
<i>Dawei Zhu, Li Chen, Jing Tian, and Xiaotong Huang</i>	
Encoding Optimization Using Nearest Neighbor Descriptor	81
<i>Muhammad Rauf, Yongzhen Huang, and Liang Wang</i>	
Multi-modal Image Fusion with KNN Matting	89
<i>Xia Zhang, Hui Lin, Xudong Kang, and Shutao Li</i>	
A Two-Step Adaptive Descreening Method for Scanned Halftone Image	97
<i>Fei Chen, Shutao Li, Le Xu, Bin Sun, and Jun Sun</i>	

Compressive Sensing Multi-focus Image Fusion	107
<i>Fang Cheng, Bin Yang, and Zhiwei Huang</i>	
Pan-Sharpening Based on Improvement of Panchromatic Image to Minimize Spectral Distortion	117
<i>Akbi Abdelkrim, Zhaoxiang Zhang, and Qingjie Liu</i>	
Combining SIFT and Individual Entropy Correlation Coefficient for Image Registration	128
<i>Gan Liu, Shengyong Chen, Xiaolong Zhou, Xiaoyan Wang, Qiu Guan, and Hui Yu</i>	
Spectral Fidelity Analysis of Compressed Sensing Reconstruction Hyperspectral Remote Sensing Image Based on Wavelet Transformation	138
<i>Yi Ma, Jie Zhang, and Ni An</i>	
A Fast Algorithm for Image Defogging	149
<i>Xiaoyan He, Jianxu Mao, Zewen Liu, Jiujiang Zhou, and Yajing Hua</i>	
A New Image Structural Similarity Metric Based on K-L Transform	159
<i>Cheng Jiang, Fen Xiao, and Xiaobo He</i>	
A New Restoration Algorithm for Single Image Defogging	169
<i>Fan Guo, Hui Peng, and Jin Tang</i>	
An Improved Laparoscopic Image Registration Algorithm Based on Sift	179
<i>Jiujiang Zhou, Jianxu Mao, and Xiaoyan He</i>	
Application of Image Processing Techniques in Infrared Detection of Faulty Insulators	189
<i>Yefan Wu, Jiangang Yao, Tangbing Li, Peng Fu, Wei Liao, and Mi Zhang</i>	
 Section V: Video Processing and Analysis	
Finding the Accurate Natural Contour of Non-rigid Objects in Video ...	199
<i>Gaoxuan Ying, Sheng Liu, and Yiting Jin</i>	
An Improved Multipitch Tracking Algorithm with Empirical Mode Decomposition	209
<i>Wei Jiang, Wenju Liu, Yingwei Tan, and Shan Liang</i>	
Robust Appearance Learning for Object Tracking in Challenging Scenes	218
<i>Jianwei Ding, Yunqi Tang, Huawei Tian, and Yongzhen Huang</i>	

Vehicle Recognition for Surveillance Video Using Sparse Coding	228
<i>Shirong Zeng, Xin Niu, and Yong Dou</i>	
Video Smoke Detection Based on the Optical Properties	235
<i>Yingjing Wu and Ying Hu</i>	
Discovery of the Topical Object in Commercial Video: A Sparse Coding Method	245
<i>Yunhui Liu, Huaping Liu, and Fuchun Sun</i>	
Study the Moving Objects Extraction and Tracking Used the Moving Blobs Method in Fisheye Image	255
<i>Jianhui Wu, Guoyun Zhang, Shuai Yuan, Longyuan Guo, and Mengxia Tan</i>	

Section VI: Biometric and Action Recognition

A Non-negative Low Rank and Sparse Model for Action Recognition . . .	266
<i>Biyun Sheng, Wankou Yang, Baochang Zhang, and Changyin Sun</i>	
Extreme Learning Machine Based Hand Posture Recognition in Color-Depth Image	276
<i>Zhen Zhou, Shutao Li, and Bin Sun</i>	
Real-Time Human Detection Based on Optimized Integrated Channel Features	286
<i>Jifeng Shen, Xin Zuo, Wankou Yang, and Guohai Liu</i>	
Facial Feature Extraction Based on Robust PCA and Histogram	296
<i>Xiao Luan and Weisheng Li</i>	
Multimodal Finger Feature Fusion and Recognition Based on Delaunay Triangular Granulation	303
<i>Jinjin Peng, Yanan Li, Ruimei Li, Guimin Jia, and Jinfeng Yang</i>	
Robust Face Recognition via Facial Disguise Learning	311
<i>Meng Yang and Linlin Shen</i>	
A Static Hand Gesture Recognition Algorithm Based on Krawtchouk Moments	321
<i>Shuping Liu, Yu Liu, Jun Yu, and Zengfu Wang</i>	
Face Recognition in the Wild by Mining Frequent Feature Itemset	331
<i>Yuzhuo Wang, Hong Cheng, Yali Zheng, and Lu Yang</i>	
Single-Sample Face Recognition via Fusion Variant Dictionary	341
<i>Ying Tai, Jian Yang, Jianjun Qian, and Yu Chen</i>	

Supervised Kernel Construction for Unsupervised PCA on Face
Recognition 351
Yang Zhao, Wen-Sheng Chen, Binbin Pan, and Bo Chen

Section VII: Biomedical Image Analysis

Medical Image Clustering Based on Improved Particle Swarm
Optimization and Expectation Maximization Algorithm..... 360
Zheng Tang, Yuqing Song, and Zhe Liu

Medical Image Fusion by Combining Nonsubsampled Contourlet
Transform and Sparse Representation..... 372
Yu Liu, Shuping Liu, and Zengfu Wang

Automated Segmentation and Tracking of SAM Cells..... 382
Min Liu and Peng Xiang

Automatic Estimation of Muscle Thickness in Ultrasound Images Based
on Revoting Hough Transform (RVHT) 392
*Jianhao Tan, Xiaolong Li, Wentao Zhang, Yaoqin Xie,
and Yongjin Zhou*

Influence of Scan Duration on the Reliability of Resting-State fMRI
Regional Homogeneity 402
Xiaotang Li, Jiansong Zhou, and Xiaoyan Liu

A Global Eigenvalue-Driven Balanced Deconvolution Approach for
Network Direct-Coupling Analysis..... 409
Haiping Sun and Hongbin Shen

Sequence-Based Prediction of Protein-Protein Binding Residues in
Alpha-Helical Membrane Proteins 419
Feng Xiao and Hongbin Shen

Section VIII: Document and Speech Analysis

Robust Voice Activity Detection Using the Combination of Short-Term
and Long-Term Spectral Patterns 428
Yingwei Tan and Wenju Liu

Speech Emotion Recognition Based on Coiflet Wavelet Packet Cepstral
Coefficients 436
Yongming Huang, Ao Wu, Guobao Zhang, and Yue Li

Text Detection in Natural Scene Images Leveraging Context
Information 444
*Runmin Wang, Nong Sang, Changxin Gao, Xiaoqin Kuang,
and Jun Xiang*

Adaptive Local Receptive Field Convolutional Neural Networks for Handwritten Chinese Character Recognition	455
<i>Li Chen, Chunpeng Wu, Wei Fan, Jun Sun, and Naoi Satoshi</i>	
Character Segmentation for Classical Mongolian Words in Historical Documents	464
<i>Xiangdong Su, Guanglai Gao, Weihua Wang, Feilong Bao, and Hongxi Wei</i>	
MCDF Based On-Line Handwritten Character Recognition for Total Uyghur Character Forms	474
<i>Askar Hamdulla, Wujiahemaiti Simayi, Mayire Ibrayim, and Dilmurat Tursun</i>	
Natural Scene Text Image Compression Using JPEG2000 ROI Coding	481
<i>Yuanping Zhu and Li Song</i>	
Off-Line Uyghur Handwritten Signature Verification Based on Combined Features	491
<i>Kurban Ubul, Tuergen Yibulayin, and Alimjan Aysa</i>	
Off-Line Signature Verification Based on Local Structural Pattern Distribution Features	499
<i>Wen Jing, MoHan Chen, and JiaXin Ren</i>	

Section IX: Pattern Recognition Applications

Coordination of Electric Vehicles Charging to Maximize Economic Benefits	508
<i>Yongwang Zhang, Haoming Yu, Chun Huang, Wei Zhao, and Min Luo</i>	
Traffic Sign Recognition Using Perturbation Method	518
<i>Linlin Huang and Fei Yin</i>	
A Novel Two-Stage Multi-objective Ant Colony Optimization Approach for Epistasis Learning	528
<i>Pengjie Jing and Hongbin Shen</i>	
Hydraulic Excavators Recognition Based on Inverse "V" Feature of Mechanical Arm	536
<i>Wenming Yang, Dedi Li, Daren Sun, and Qingmin Liao</i>	
Real-Time Traffic Sign Detection via Color Probability Model and Integral Channel Features	545
<i>Yi Yang and Fuchao Wu</i>	

Study of Charging Station Short-Term Load Forecast Based on Wavelet Neural Networks for Electric Buses	555
<i>Lei Zhang, Chun Huang, and Haoming Yu</i>	
The Layout Optimization of Charging Stations for Electric Vehicles Based on the Chaos Particle Swarm Algorithm	565
<i>Zhenghui Zhang, Qingxiu Huang, Chun Huang, Xinguang Yuan, and Dewei Zhang</i>	
An Improved Feature Weighted Fuzzy Clustering Algorithm with Its Application in Short-Term Prediction of Wind Power	575
<i>Xinkun Wang, Diansheng Luo, and Hongying He</i>	
Charging Load Forecasting for Electric Vehicles Based on Fuzzy Inference	585
<i>Jingwei Yang, Diansheng Luo, Shuang Yang, and Shiyu Hu</i>	
Security Event Classification Method for Fiber-optic Perimeter Security System Based on Optimized Incremental Support Vector Machine	595
<i>Lu Liu, Wei Sun, Yan Zhou, Yuan Li, Jun Zheng, and Botao Ren</i>	
Author Index	605