

Contents – Part II

Advanced Geospatial Model and Analysis for Understanding Ecological and Environmental Process

Spatial-Temporal Evolution Pattern and Future Scenario Analysis of Water Resources Carrying Capacity of Ningbo City	3
<i>Yanjuan Wu, Zhiming Feng, and Yanzhao Yang</i>	
Predict Port Throughput Based on Probabilistic Forecast Model	13
<i>Yihan Chen, Zhonghua Jin, and Xuejun Liu</i>	
Principal Component Analysis of Building Cluster Factors	22
<i>Hua Ai, Qiang Liu, Zhen Wang, Zezhong Zheng, Yaosen Huang, and Zhiqin Huang</i>	
Progressive Network Transmission Method Research of Vector Data	27
<i>Shengli Wang, Zezhong Zheng, Chengjun Pu, Mingcang Zhu, Yong He, Zhiqing Huang, Yicong Feng, Mengge Tian, and Jiang Li</i>	
Comparison of Different Remote Sensing Monitoring Methods for Land-Use Classification in Yunnan Plateau Lake Area	37
<i>Ce Wang, Shu Gan, Da Yi, and Yang Wu</i>	
Application of Different Composite Index Methods in the Evaluation of Soil Heavy Metal Pollution	43
<i>Yingchao Niu, Zhongfa Zhou, Denghong Huang, and Xu Yuan</i>	
Hyperspectral Image Denoising Based on Subspace Low Rank Representation	51
<i>Mengdi Wang, Jing Yu, Lijuan Niu, and Weidong Sun</i>	
A Least-Squares Ellipse Fitting Method Based on Boundary	60
<i>Lei Liu and Xiangwei Meng</i>	
Training Convolutional Neural Networks Based on Ternary Optical Processor	67
<i>Ruifen Zhang and Shan Ouyang</i>	
An Improved Algorithm for Video Abstract	76
<i>Jianlei Zhang, Qin Li, Wenfeng Shen, and Shengbo Chen</i>	
The Prediction of CTR Based on Model Fusion Theory	90
<i>Jiehao Chen, Shuliang Wang, Ziqian Zhao, and Jiyun Shi</i>	

An Improved Algorithm of LEACH Protocol Based on Node's Trust Value and Residual Energy	101
<i>Miaoyuan Huang, Enjian Bai, Xueqin Jiang, and Yun Wu</i>	
Red Preserving Algorithm for Underwater Imaging	110
<i>Chunbo Ma and Jun Ao</i>	
Estimating Gas Source Location Based on Distributed Adaptive Deflection Projected Subgradient Method	117
<i>Zhemin Zhuang, Fenlan Li, and Ye Yuan</i>	
System Locating License Plates with Shadow Based on Self-adaptive Window Size Technique	127
<i>Jingyu Dun and Sanyuan Zhang</i>	
Energy Prediction Model Based on Kernel Partial Least Squares for Energy Harvesting Wireless Sensor Network	138
<i>Xuecai Bao</i>	
Deep Convolution Neural Network Recognition Algorithm Based on Maximum Scatter Difference Criterion	146
<i>Kunlun Li, Xuefei Geng, and Weiduan Li</i>	
Energy Efficient Routing Algorithm Using Software Defining Network for WSNs via Unequal Clustering	154
<i>Hang Yu, Zhiping Jia, Lei Ju, Chunguang Liu, and Xianzhong Ding</i>	
An Energy Efficient and Secure Data Aggregation Method for WSNs Based on Dynamic Set.	164
<i>Jinsheng Zhu and Zhiping Jia</i>	
A Novel Quality Detection Approach for Non-mark Printing Image	173
<i>Qiong Zhang, Bin Li, Minfen Shen, and Haihong Shen</i>	
Passive Packet Reordering Measurement on Terrestrial-Based and Satellite-Based Internet	181
<i>Zhengguo Xu and Hui Zheng</i>	
Research on the Description Method of the Atomic Services in Extensible Network Service Model	191
<i>Jie Ren and Jun Shen</i>	
The Risk Assessment for Unmanned Vehicle Using Bayesian Network	200
<i>Dapeng Li, Ting Liu, Tingting Cao, Pingke Deng, Ling-chuan Zeng, and Yi Qu</i>	

Delay-Constrained Least-Energy-Consumption Multicast Routing Based on Heuristic Genetic Algorithm in Unreliable Wireless Networks.	208
<i>Ting Lu, Shan Chang, and Guohua Liu</i>	
A Coarse to Fine Object Proposal Framework for Autonomous Driving Object Detection Using Binocular Image	218
<i>Xiaolong Liu, Wanzeng Cai, Zhengfa Liang, and Yiliu Feng</i>	
Study on Recognition and Management of Cartographic Topology Preprocessing Mode	228
<i>Chengming Li, Xiaoli Liu, Wei Wu, and Yong Yin</i>	
Research on Hot Topic Discovery Technology of Micro-blog Based on Biterm Topic Model	234
<i>Jun Feng and Yu Fang</i>	
A Deduplication Algorithm Based on Data Similarity and Delta Encoding . . .	245
<i>Bin Song, Limin Xiao, Guangjun Qin, Li Ruan, and Shida Qiu</i>	
Area Constrained Space Information Flow	254
<i>Alfred Uwitonze, Jiaqing Huang, Yuanqing Ye, and Wenqing Cheng</i>	
Research on the Algorithm of Converting Files Generated by CALPOST to AVS/Express Platform	260
<i>Xiaofei Shi, Yunfeng Ma, Qi Wang, Tingshuai Wang, Ping Wang, Shuai Wang, Xuezhong Xu, Weike Xu, Zhongyi Wei, Nan Xiao, Caina Zhang, Xiaorui Ma, Yanwei Qian, and Kunyu Gao</i>	
A Construction Method of Road and Residence Correlation Based on Urban Skeleton Network	267
<i>Chuang Liu, Haizhong Qian, Haiwei He, Xiao Wang, and Limin Xie</i>	
A Hybrid Parallel Computing Model to Support Scalable Processing of Big Oceanographic Spatial Data	276
<i>Miaomiao Song, Wenwen Li, Wenqing Li, Enxiao Liu, and Dingfeng Yu</i>	
A Study on Curve Simplification Method Combining Douglas-Peucker with Li-Openshaw	286
<i>Chengming Li, Pengda Wu, Teng Gu, and Xiaoli Liu</i>	
Applications of Geo-informatics in Resource Management and Sustainable Ecosystem	
A Mobile Services Collaborative Recommendation Algorithm Based on Location-Aware Hidden Markov Model.	297
<i>Mingjun Xin, Shunxiang Li, Liyuan Zhou, and Guobing Zou</i>	

3D Visualization Analysis of Longtan Reservoir-Induced Earthquakes and Active Faults	307
<i>Zhengqiang Long, Hong Yao, Shuangqing Liu, and Xuejun Sun</i>	
Identification and Characterization of Geological Hazards in a Coal Mining Area Using Remote Sensing	321
<i>Jin Liu</i>	
Monitoring Landslides Using Multi-frequency SAR Data in Danba County, Sichuan Province, China	330
<i>Yansheng Ding, Jie Dong, Lu Zhang, Mingsheng Liao, and Yang Zhou</i>	
Modeling the Avian Influenza H5N1 Virus Infection in Human and Analyzing Its Evolution	339
<i>Ping Zhang</i>	
The Research of 3D Geological Modeling in the Main Mining Area and East Mining Area of BayanObo Deposit	353
<i>Mingchao Zhang, Jingchao Li, Yike Li, Qunchao Zuo, Lei Yao, Hui Chen, and Wanjuan Liang</i>	
Application of the Evidence Right in the Quantitative Evaluation of Rural Residential Area	363
<i>Chao Tang and Longyi Shao</i>	
Research on Detection and Trend Forecasting Technologies of Micro-blog Hot Topic	372
<i>Qi Fu and Jun Tan</i>	
The Implementation of Human Tracking with Quadrotor Aircraft	379
<i>Yang Yang, Dongdong Huang, and Nannan Cheng</i>	
QvHran: A QoE-Driven Virtualization Based Architecture for Heterogeneous Radio Access Network	389
<i>Luhan Wang, Zhaoming Lu, Xiangming Wen, Lu Ma, Xin Chen, and Wei Zheng</i>	
An ID-Based Anonymous Authentication Scheme for Distributed Mobile Cloud Computing	401
<i>Tianyi Zhang and Fengtong Wen</i>	
QKDFlow: QKD Based Secure Communication Towards the OpenFlow Interface in SDN	410
<i>Yan Peng, Chunqing Wu, Baokang Zhao, Wanrong Yu, Bo Liu, and Shasha Qiao</i>	

Location System Design Based on Weighted RSSI for High-Speed Railway Landslide Monitoring	416
<i>Bo Yang, Yongqiang Zhang, Jifu Yu, Xingxia Wang, and Xinchun Jia</i>	
Application of Computer Simulation in Interference Assessment Between Satellite Systems	426
<i>Tingting Cao, Dapeng Li, Aiai Ren, and Pingke Deng</i>	
Research and Application of Three-Dimensional Simulation Technology on Virtual Display of Skirt	433
<i>Yan Wan, Zheng Tie, and Zilin Shi</i>	
Database Construction and Map Compilation of Provincial Common Geographic Maps	442
<i>Guizhi Wang and Wen Zhou</i>	
Building Geospatial Health Applications from the EASTWeb Framework . . .	451
<i>Yi Liu, Michael D. DeVos, Muhammad Abdul-Ramin, and Michael C. Wimberly</i>	
Ship Navigation and Warning System Based on GPS/BDS Equivalent Satellite Clock Error Method	465
<i>Dongjian Cai, Zhanyong Fan, Zongkun Zhen, and Wanghui Zhou</i>	
Research on Cloud Storage of Vector Data Based on HBase	473
<i>Ruoxin Zhu, Jianqiao Cheng, Jianyong Fan, and Ke Chen</i>	
Research on Visualization Methods for Academic Papers Analysis of Chinese Surveying and Mapping Journals	483
<i>Jing Li, Haiyan Liu, Wenyue Guo, and Ruijie Yang</i>	
Author Index	493

Contents – Part I

Smart City in Resource Management and Sustainable Ecosystem

Study of Ecosystem Sensitivity Based on Grid GIS in Leishan County	3
<i>Shanshan Zhang, Zhongfa Zhou, and Xiaotao Sun</i>	
The Design and Implementation of Field Patrol Inspection System Based on GPS-Tablet PC.	12
<i>Shengchun Shi and Yicheng Yin</i>	
The Vehicle Route Modeling and Optimization Considering the Dynamic Demands and Traffic Information	20
<i>Chouyong Chen and Jun Chen</i>	
Developing a 3D Routing Instruction Engine for Indoor Environment	34
<i>Ismail Rakip Karas, Umit Atila, and Emrullah Demiral</i>	
Saliency Detection for High Dynamic Range Images via Global and Local Cues.	43
<i>Dengmei Xie, Gangyi Jiang, Hua Shao, and Mei Yu</i>	
Research on Vegetable Growth Monitoring Platform Based on Facility Agricultural IOT	52
<i>Qingxue Li and Huarui Wu</i>	
A Novel Framework for Analyzing Overlapping Community Evolution in Dynamic Social Networks	60
<i>Hui Jiang, Xiaolong Xu, Jiaying Wu, and Xuewu Zhang</i>	
Developing Mobile Software for Extenics Innovation	71
<i>Siwei Yan, Rui Fan, Yuefeng Chen, and Xiaohang Luo</i>	
Variable Weight Based Clustering Approach for Load Balancing in Wireless Sensor Networks	80
<i>Xuxun Liu and Hongyan Xin</i>	
MDPRP: Markov Decision Process Based Routing Protocol for Mobile WSNs	91
<i>Eric Ke Wang, Zhe Nie, Zheng Du, and Yuming Ye</i>	
Medical Insurance Data Mining Using SPAM Algorithm	100
<i>Qifeng Cheng and Xiaoqiang Ren</i>	

A Genetic-Algorithm-Based Optimized AODV Routing Protocol	109
<i>Hua Yang and Zhiyong Liu</i>	
Performance Analysis of PaaS Cloud Resources Management Model Based on LXC	118
<i>Xuefei Li and Jing Jiang</i>	
Link Prediction Based on Precision Optimization	131
<i>Shensheng Gu and Ling Chen</i>	
Face Feature Points Detection Based on Adaboost and AAM	142
<i>Xiaoqi Jia, Qing Zhu, Peng Zhang, and Menglong Chang</i>	
Stock Price Manipulation Detection Based on Machine Learning Technology: Evidence in China	150
<i>Jiangyun Zhang, Shaojie Wang, Shicheng Xu, and Mengxin Yu</i>	
Study over Cerebellum Prediction Model During Hand Tracking	159
<i>Shaobai Zhang and Qun Chen</i>	
Forecasting for the Risk of Transmission Line Galloping Trip Based on BP Neural Network	168
<i>Lichun Zhang, Bin Liu, Bin Zhao, Xiangze Fei, and Yongfeng Cheng</i>	
A Features Fusion Method for Sleep Stage Classification Using EEG and EMG.	176
<i>Tiantian Lv, Xinzui Wang, Qian Yu, and Yong Yu</i>	
Community Detection Algorithm with Membership Function	185
<i>Dongming Chen, Lulu Jia, Dongfang Sima, Xinyu Huang, and Dongqi Wang</i>	
Task Scheduling in Cloud Computing Based on Cross Entropy Method.	196
<i>Ying Ren, Lijun Zhou, and Huawei Li</i>	
Bad Data Identification Based on Optimized Local Outlier Detection Algorithm	203
<i>Jingxian Qi, Yuefeng Cao, and Jianhua Shi</i>	
A Novel Approach to Extracting Posts Qualification from Internet	213
<i>Yi Ding, Bing Li, Yuqi Zhao, and Fengling Liao</i>	
Unclear Norm Minimization and Weighted Sparse Reconstruction Cost for Crowd Abnormal Detection.	222
<i>Shaochao Sun</i>	

Quality Measurement and Evaluation Technology Research of Power Grid Dispatching Automation System Software	230
<i>Xin Xu, Yujia Li, Lixin Li, Fangchun Di, Qing-bo Yang, Ling-lin Gong, and Lin-peng Zhang</i>	
Identification of Certain Shrapnel's Air Resistance Coefficient in Plateau Environment Based on CK Method	238
<i>Ming Jiang, Yuwen Liu, Lijing Cao, and Zhiyuan Zhang</i>	
Image Semantic Segmentation Based on Fully Convolutional Neural Network and CRF	245
<i>Huiyun Li, Xin Qian, and Wei Li</i>	
Car-Based Laser Scanning System of Ancient Architecture Visual Modeling	251
<i>Kunyang Wang and Jing Zhang</i>	
Research on Fractal Characteristics of Road Network in Chengdu City	257
<i>Bowen Qiao and Jing Zhang</i>	
WIFI-Based Indoor Positioning System with Twice Clustering and Multi-user Topology Approximation Algorithm	265
<i>Xiaofeng Lu, Jianlin Wang, Zibo Zhang, Haibin Bian, and Erzhou Yang</i>	
Surveillance Camera-Based Monitoring of Plant Flowering Phenology	273
<i>Lijun Deng, Wei Shen, Yi Lin, Wei Gao, and Jiayuan Lin</i>	
Visual Analysis Research of Traffic Jam Based on Flow Data	284
<i>Wei Tian, Jinming Zhang, and Jialin Ma</i>	
A Design of UAV Multi-lens Camera System for 3D Reconstruction During Emergency Response	293
<i>Junhui Wu, Fei Wang, and Xiaocui Zheng</i>	
Spatial Data Acquisition through RS and GIS in Resource Management and Sustainable Ecosystem	
Winter Wheat Leaf Area Index (LAI) Inversion Combining with HJ-1/CCD1 and GF-1/WFV1 Data	301
<i>Dan Li, Jie Lv, Chongyang Wang, Wei Liu, Hao Jiang, and Shuisen Chen</i>	
Assessment of Wavelet Base Based on Analytic Hierarchy Process in Remote Sensing Image De-noising	310
<i>Yongmei Zhai, Shenglong Chen, Fuzhen Wang, and Qi Zhao</i>	

Estimation of Fishing Vessel Numbers Close to the Terminator in the Pacific Northwest Using OLS/DMSP Data	321
<i>Tianfei Cheng, Weifeng Zhou, Hongyun Xu, and Wei Fan</i>	
Similarities and Differences of Oceanic Primary Productivity Product Estimated by Three Models Based on MODIS for the Open South China Sea	328
<i>Hongyun Xu, Weifeng Zhou, Anzhou Li, and Shijian Ji</i>	
Hydrological Feature Extraction of the Tarim Basin Based on DEM in ArcGIS Environment	337
<i>Yaping Wei, Jinglong Fan, and Xinwen Xu</i>	
Extraction Method of Remote Sensing Alteration Anomaly Information Based on Principal Component Analysis	342
<i>Nan Lin, Menghong Wu, and Weidong Li</i>	
Geographical Situation Monitoring Applications Based on MiniSAR	350
<i>Xuejing Shi, Gang Huang, Ming Qiao, and Bingnan Wang</i>	
New Reduced-Reference Stereo Image Quality Assessment Model for 3D Visual Communication	356
<i>Ying Wang, Kaihui Zheng, Mei Yu, Baozhen Du, and Gangyi Jiang</i>	
New Tone-Mapped Image Quality Assessment Method Based on Color Space.	365
<i>Hao Song, Gangyi Jiang, Hua Shao, and Mei Yu</i>	
A Modified NCSR Algorithm for Image Denoising	377
<i>Diwei Li, Yunjie Zhang, and Xin Liu</i>	
Aviator Hand Tracking Based on Depth Images	387
<i>Xiaolong Wang and Shan Fu</i>	
Reachability Problem in Temporal Graphs	396
<i>Kaiyang Liu and Xincan Fan</i>	
Research on Rapid Extraction Method of Building Boundary Based on LIDAR Point Cloud Data	403
<i>Minshui Wang, Guodong Yang, Xuqing Zhang, and Liji Lu</i>	
Absorption Band Spectrum Features Extraction for Minerals Recognition Based on Local Spectral Continuum Removal.	414
<i>Wei Zhou, Qichao Liu, and Zhikang Xiang</i>	
Analysis of Seasonal Variation of Surface Shortwave Broadband Albedo on Tibetan Plateau from MODIS Data	423
<i>Zihan Zhang, Shengcheng Cui, and Xuebin Li</i>	

A Novel Multiple Watermarking Algorithm Based on Correlation Detection for Vector Geographic Data	429
<i>Yingying Wang, Chengsong Yang, Changqing Zhu, Na Ren, and Peng Chen</i>	

A Spatial SQL Based on SparkSQL	437
<i>Qingyun Meng, Xiujun Ma, Wei Lu, and Zerong Yao</i>	

Ecological and Environmental Data Processing and Management

A Comparison of Four Global Land Cover Maps on a Provincial Scale Based on China's 30 m GlobeLand30	447
<i>Xiaohui Ye, Jinling Zhao, Linsheng Huang, Dongyan Zhang, and Qi Hong</i>	

Research Progress on Coupling Relationship Between Carbon and Water of Ecosystem in Arid Area.	456
<i>Xiang Huang</i>	

Karst Rocky Desertification Dynamic Monitoring Analysis Based on Remote Sensing for a Typical Mountain Area in Southeast of Yunnan Province	466
<i>Ling Yuan, Shu Gan, Xiping Yuan, Ce Wang, and Da Yi</i>	

Guangxi Longtan Reservoir Earthquakes S-Wave Splitting.	477
<i>Lijuan Lu, Bin Zhou, Xiang Wen, Shuiping Shi, Chunheng Yan, Sha Li, and Peilan Guo</i>	

Study on Inversion Forecasting Model for 2011 Tohoku Tsunami.	494
<i>Chao Ying, Yong Liu, Xin Zhao, and Jinbin Mu</i>	

Remote Sensing Dynamic Monitoring and Driving Force Analysis of Grassland Desertification Around the Qinghai Lake Area.	505
<i>Yu'e Du, Baokang Liu, Fujiang Hou, and Zongli Wang</i>	

Leaf Area Index Estimation of Winter Pepper Based on Canopy Spectral Data and Simulated Bands of Satellite	515
<i>Dan Li, Hao Jiang, Shuisen Chen, Chongyang Wang, Siyu Huang, and Wei Liu</i>	

Geoinformatics in Mapping of Fog-Affected Areas over Northern India and Development of Ion Based Fog Dispersion Technique.	527
<i>Arun K. Saraf, Palash Choudhury, Josodhir Das, Gaurav Singh, Susanta Borgohain, Suman Saurav Baral, and Kanika Sharma</i>	

Ground Subsidence Monitoring in Cheng Du Plain Using DInSAR SBAS Algorithm.	535
<i>Xiaoya Lu and Xiaopeng Sun</i>	

GIS in Seismic Hazard Assessment of Shillong Region, India.	546
<i>J.D. Das, A.K. Saraf, and V. Srivastava</i>	
Spatial-Temporal Analysis of Soil Erosion in Ninghua County Based on the RUSLE	553
<i>Ming Yu, Yao Huang, Chaofeng Sun, and Yong Wu</i>	
Characteristics and Environmental Significance and Physical and Chemical Properties of Karst Cave Water in Shuanghe Cave, Guizhou Province (in China)	563
<i>Jie Zhang, Zhongfa Zhou, Mingda Cao, and Yanxi Pan</i>	
Regional Pollutant Dispersion Characteristics of Weather Systems.	572
<i>Tingshuai Wang, Qi Wang, Yunfeng Ma, Ping Wang, Wei Huang, and Dexin Guan</i>	
Study on the Selection and Moving Model of the Poverty Alleviation and Resettlement in the Typical Karst Mountain Area: —A Case Study of Pan County in Guizhou Province	579
<i>Yanxi Pan, Zhongfa Zhou, Qian Feng, and Mingda Cao</i>	
Assessment of Flood Hazard Based on Underlying Surface Change by Using GIS and Analytic Hierarchy Process	589
<i>Lin Lin, Caihong Hu, and Zening Wu</i>	
Author Index	601

Geo-Spatial Knowledge and Intelligence
4th International Conference on Geo-Informatics in
Resource Management and Sustainable Ecosystem,
GRMSE 2016, Hong Kong, China, November 18-20,
2016, Revised Selected Papers, Part II
Yuan, H.; Geng, J.; Bian, F. (Eds.)
2017, L, 497 p. 253 illus., Softcover
ISBN: 978-981-10-3968-3