

Contents

Data Mining

Low-Rank and Sparse Matrix Completion for Recommendation	3
<i>Zhi-Lin Zhao, Ling Huang, Chang-Dong Wang, Jian-Huang Lai, and Philip S. Yu</i>	
A Brain Network Inspired Algorithm: Pre-trained Extreme Learning Machine	14
<i>Yongshan Zhang, Jia Wu, Zhihua Cai, and Siwei Jiang</i>	
K-Hop Community Search Based on Local Distance Dynamics	24
<i>Lijun Cai, Tao Meng, Tingqin He, Lei Chen, and Ziyun Deng</i>	
An Improved Feedback Wavelet Neural Network for Short-Term Passenger Entrance Flow Prediction in Shanghai Subway System	35
<i>Bo Zhang, Shuqiu Li, Liping Huang, and Yongjian Yang</i>	
Social and Content Based Collaborative Filtering for Point-of-Interest Recommendations.	46
<i>Yi-Ning Xu, Lei Xu, Ling Huang, and Chang-Dong Wang</i>	
Modeling Server Workloads for Campus Email Traffic Using Recurrent Neural Networks	57
<i>Spyros Boukoros, Anupiya Nugaliyadde, Angelos Marnerides, Costas Vassilakis, Polychronis Koutsakis, and Kok Wai Wong</i>	
Multiclass Imbalanced Classification Using Fuzzy C-Mean and SMOTE with Fuzzy Support Vector Machine.	67
<i>Ratchakoon Pruengkarn, Kok Wai Wong, and Chun Che Fung</i>	
Incremental Matrix Reordering for Similarity-Based Dynamic Data Sets	76
<i>Parisa Rastin and Basarab Matei</i>	
Power Consumption Prediction for Dynamic Adjustment in Hydrocracking Process Based on State Transition Algorithm and Support Vector Machine. . . .	85
<i>Xiao-Fang Chen, Ying-Can Qian, and Ya-Lin Wang</i>	
Learning with Partially Shared Features for Multi-Task Learning	95
<i>Cheng Liu, Wen-Ming Cao, Chu-Tao Zheng, and Hau-San Wong</i>	
Power Users Behavior Analysis and Application Based on Large Data	105
<i>Xiaoya Ren, Guotao Hui, Yanhong Luo, Yingchun Wang, Dongsheng Yang, and Ge Qi</i>	

Accelerated Matrix Factorisation Method for Fuzzy Clustering	115
<i>Mingjun Zhan and Bo Li</i>	
Mining Mobile Phone Base Station Data Based on Clustering Algorithms with Application to Public Traffic Route Design	124
<i>When Shen, Zhihua Wei, and Zhiyuan Zhou</i>	
Extracting Deep Semantic Information for Intelligent Recommendation	134
<i>Wang Chen, Hai-Tao Zheng, and Xiao-Xi Mao</i>	
A Hybrid Method of Sine Cosine Algorithm and Differential Evolution for Feature Selection	145
<i>Mohamed E. Abd Elaziz, Ahmed A. Ewees, Diego Oliva, Pengfei Duan, and Shengwu Xiong</i>	
Feature Selection Based on Improved Runner-Root Algorithm Using Chaotic Singer Map and Opposition-Based Learning	156
<i>Rehab Ali Ibrahim, Diego Oliva, Ahmed A. Ewees, and Songfeng Lu</i>	
LWMC: A Locally Weighted Meta-Clustering Algorithm for Ensemble Clustering.	167
<i>Dong Huang, Chang-Dong Wang, and Jian-Huang Lai</i>	
PUD: Social Spammer Detection Based on PU Learning	177
<i>Yuqi Song, Min Gao, Junliang Yu, Wentao Li, Junhao Wen, and Qingyu Xiong</i>	
Discovery of Interconnection Among Knowledge Areas of Standard Computer Science Curricula by a Data Science Approach	186
<i>Yoshitatsu Matsuda, Takayuki Sekiya, and Kazunori Yamaguchi</i>	
A Probabilistic Model for the Cold-Start Problem in Rating Prediction Using Click Data	196
<i>ThaiBinh Nguyen and Atsuhiko Takasu</i>	
Dynamic Forest Model for Sentiment Classification.	206
<i>Mingming Li, Jiao Dai, Wei Liu, and Jizhong Han</i>	
A Multi-attention-Based Bidirectional Long Short-Term Memory Network for Relation Extraction	216
<i>Lingfeng Li, Yuanping Nie, Weihong Han, and Jiuming Huang</i>	
Question Recommendation in Medical Community-Based Question Answering	228
<i>Hong Cai, Cuiting Yan, Airu Yin, and Xuesong Zhao</i>	
A Visual Analysis of Changes to Weighted Self-Organizing Map Patterns . . .	237
<i>Younjin Chung, Joachim Gudmundsson, and Masahiro Takatsuka</i>	

Periodic Associated Sensor Patterns Mining from Wireless Sensor Networks	247
<i>Md. Mamunur Rashid, Joarder Kamruzzaman, Iqbal Gondal, and Rafiul Hassan</i>	
Online Multi-label Passive Aggressive Active Learning Algorithm Based on Binary Relevance	256
<i>Xizhi Guo, Yongwei Zhang, and Jianhua Xu</i>	
Predicting Taxi Passenger Demands Based on the Temporal and Spatial Information	267
<i>Sang Ho Kang, Han Bin Bae, Rhee Man Kil, and Hee Yong Youn</i>	
Combining the Global and Local Estimation Models for Predicting PM ₁₀ Concentrations	275
<i>Han Bin Bae, Tae Hyun Kim, Rhee Man Kil, and Hee Yong Youn</i>	
Anomaly Detection for Categorical Observations Using Latent Gaussian Process.	285
<i>Fengmao Lv, Guowu Yang, Jinzhao Wu, Chuan Liu, and Yuhong Yang</i>	
Make Users and Preferred Items Closer: Recommendation via Distance Metric Learning	297
<i>Junliang Yu, Min Gao, Wenge Rong, Yuqi Song, Qianqi Fang, and Qingyu Xiong</i>	
Deep Bi-directional Long Short-Term Memory Model for Short-Term Traffic Flow Prediction	306
<i>Jingyuan Wang, Fei Hu, and Li Li</i>	
Odor Change of Citrus Juice During Storage Based on Electronic Nose Technology	317
<i>Xue Jiang, Pengfei Jia, Siqu Qiao, and Shukai Duan</i>	
A Tag-Based Integrated Diffusion Model for Personalized Location Recommendation	327
<i>Yaolin Zheng, Yulong Wang, Lei Zhang, Jingyu Wang, and Qi Qi</i>	
Relationship Measurement Using Multiple Factors Extracted from Merged Meeting Events	338
<i>Zeng Chen, Keren Wang, and Zheng Yang</i>	
Reinforcement Label Propagation Algorithm Based on History Record	348
<i>Kai Liu, Yi Zhang, Kai Lu, Xiaoping Wang, and Xin Wang</i>	
A Hybrid Approach for Recovering Information Propagational Direction	357
<i>Xiang-Rui Peng, Ling Huang, and Chang-Dong Wang</i>	

Geo-Pairwise Ranking Matrix Factorization Model for Point-of-Interest Recommendation	368
<i>Shenglin Zhao, Irwin King, and Michael R. Lyu</i>	
A Method to Improve Accuracy of Velocity Prediction Using Markov Model	378
<i>Ya-dan Liu, Liang Chu, Nan Xu, Yi-fan Jia, and Zhe Xu</i>	
Strength Analysis on Safety-Belt ISOFIX Anchorage for Vehicles Based on HyperWorks and Ls-Dyna	387
<i>Peicheng Shi, Suo Wang, and Ping Xiao</i>	
Robust Adaptive Beamforming in Uniform Circular Array	397
<i>Xin Song, Ying Guan, Jinkuan Wang, and Jing Gao</i>	
Evaluating Accuracy in Prudence Analysis for Cyber Security	407
<i>Omaru Maruatona, Peter Vamplew, Richard Dazeley, and Paul A. Watters</i>	
A Bayesian Posterior Updating Algorithm in Reinforcement Learning	418
<i>Fangzhou Xiong, Zhiyong Liu, Xu Yang, Biao Sun, Charles Chiu, and Hong Qiao</i>	
Detecting Black IP Using for Classification and Analysis Through Source IP of Daily Darknet Traffic	427
<i>Jinhak Park, Jangwon Choi, and Jungsuk Song</i>	
A Linear Online Guided Policy Search Algorithm	434
<i>Biao Sun, Fangzhou Xiong, Zhiyong Liu, Xu Yang, and Hong Qiao</i>	
Detection of Botnet Activities Through the Lens of a Large-Scale Darknet. . .	442
<i>Tao Ban, Lei Zhu, Jumpei Shimamura, Shaoning Pang, Daisuke Inoue, and Koji Nakao</i>	
Time Series Analysis	
An Altered Kernel Transformation for Time Series Classification	455
<i>Yangtao Xue, Li Zhang, Zhiwei Tao, Bangjun Wang, and Fanzhang Li</i>	
An Interweaved Time Series Locally Connected Recurrent Neural Network Model on Crime Forecasting	466
<i>Ke Wang, Peidong Zhu, Haoyang Zhu, Pengshuai Cui, and Zhenyu Zhang</i>	
Decouple Adversarial Capacities with Dual-Reservoir Network	475
<i>Qianli Ma, Lifeng Shen, Wanqing Zhuang, and Jieyu Chen</i>	

Tree Factored Conditional Restricted Boltzmann Machines for Mixed Motion Style	484
<i>Chunzhi Xie, Jiancheng Lv, Bijue Jia, and Lei Xia</i>	
A Piecewise Hybrid of ARIMA and SVMs for Short-Term Traffic Flow Prediction	493
<i>Yong Wang, Li Li, and Xiaofei Xu</i>	
TMRPC: A Trend-Matching Resources Coupled Prediction Method over Data Stream	503
<i>Runfan Wu, Yijie Wang, Xingkong Ma, and Li Cheng</i>	
App Uninstalls Prediction: A Machine Learning and Time Series Mining Approach	514
<i>Jiaxing Shang, Jinghao Wang, Ge Liu, Hongchun Wu, Shangbo Zhou, and Yong Feng</i>	
Time Series Forecasting Using GRU Neural Network with Multi-lag After Decomposition	523
<i>Xu Zhang, Furao Shen, Jinxi Zhao, and GuoHai Yang</i>	
Position-Based Content Attention for Time Series Forecasting with Sequence-to-Sequence RNNs.	533
<i>Yagmur Gizem Cinar, Hamid Mirisae, Parantapa Goswami, Eric Gaussier, Ali Ait-Bachir, and Vadim Strijov</i>	
Deep Sequence-to-Sequence Neural Networks for Ionospheric Activity Map Prediction.	545
<i>Noëlie Cherrier, Thibaut Castaings, and Alexandre Boulch</i>	
Spatio-Temporal Wind Power Prediction Using Recurrent Neural Networks . . .	556
<i>Wei Lee Woon, Stefan Oehmcke, and Oliver Kramer</i>	
Bayesian Neural Learning via Langevin Dynamics for Chaotic Time Series Prediction.	564
<i>Rohitash Chandra, Lamiae Azizi, and Sally Cripps</i>	
Causality Analysis Between Soil of Different Depth Moisture and Precipitation in the United States	574
<i>Hui Su, Sanqing Hu, Tong Cao, Jianhai Zhang, Yuying Zhu, Bocheng Wang, and Lan Jiang</i>	
Fix-Budget and Recurrent Data Mining for Online Haptic Perception	581
<i>Lele Cao, Fuchun Sun, Xiaolong Liu, Wenbing Huang, Weihao Cheng, and Ramamohanarao Kotagiri</i>	

Arterial Coordination for Dedicated Bus Priority Based on a Spectral Clustering Algorithm.	592
<i>Shuhui Zheng, Xiaoming Liu, Chunlin Shang, Guorong Zheng, and Guifang Zheng</i>	
Multi-resolution Selective Ensemble Extreme Learning Machine for Electricity Consumption Prediction.	600
<i>Hui Song, A.K. Qin, and Flora D. Salim</i>	
Dow Jones Index is Driven Periodically by the Unemployment Rate During Economic Crisis and Non-economic Crisis Periods.	610
<i>Tong Cao, Sanguing Hu, Yuying Zhu, Jianhai Zhang, Hui Su, and Bocheng Wang</i>	
Dynamic Cyclone Wind-Intensity Prediction Using Co-Evolutionary Multi-task Learning.	618
<i>Rohitash Chandra</i>	
Social Networks	
Layer-Prioritized Influence Maximization in Social Networks.	631
<i>Qianwen Zhang, Yuzhu Wu, and Jinkui Xie</i>	
Design of Traffic Signal Controller Based on Network.	639
<i>Xiaoming Liu, Yulin Tian, Chunlin Shang, Peizhou Yan, and Lu Wei</i>	
Motif Iteration Model for Network Representation.	647
<i>Lintao Lv, Zengchang Qin, and Tao Wan</i>	
Inferring Social Network User's Interest Based on Convolutional Neural Network.	657
<i>Yanan Cao, Shi Wang, Xiaoxue Li, Cong Cao, Yanbing Liu, and Jianlong Tan</i>	
Enhanced Deep Learning Models for Sentiment Analysis in Arab Social Media.	667
<i>Mariam Abbes, Zied Kechaou, and Adel M. Alimi</i>	
Collective Actions in Three Types of Continuous Public Goods Games in Spatial Networks.	677
<i>Zimin Xu, Qiaoyu Li, and Jianlei Zhang</i>	
Analysing the Evolution of Contrary Opinions on a Controversial Network Event.	689
<i>Qu Liu, Yuanzhuo Wang, Chuang Lin, and Guoliang Xing</i>	

Category Prediction of Questions Posted in Community-Based Question Answering Services Using Deep Learning Methods.	699
<i>Qing Ma, Reo Kato, and Masaki Murata</i>	
LCE: A Location Category Embedding Model for Predicting the Category Labels of POIs.	710
<i>Yue Wang, Meng Chen, Xiaohui Yu, and Yang Liu</i>	
Knowledge Graph Based Question Routing for Community Question Answering	721
<i>Zhu Liu, Kan Li, and Dacheng Qu</i>	
Exploiting Non-visible Relationship in Link Prediction Based on Asymmetric Local Random Walk.	731
<i>Chunlong Fan, Dong Li, Yiping Teng, Dongwan Fan, and Guohui Ding</i>	
Ciphertext Retrieval Technology of Homomorphic Encryption Based on Cloud Pretreatment.	741
<i>Changqing Gong, Yun Xiao, Mengfei Li, Shoufei Han, Na Lin, and Zhenzhou Guo</i>	
A Linear Time Algorithm for Influence Maximization in Large-Scale Social Networks	752
<i>Hongchun Wu, Jiaxing Shang, Shangbo Zhou, and Yong Feng</i>	
Bioinformatics, Information Security and Social Cognition	
Thyroid Nodule Classification Using Hierarchical Recurrent Neural Network with Multiple Ultrasound Reports.	765
<i>Dehua Chen, Cheng Shi, Mei Wang, and Qiao Pan</i>	
Prediction of Stroke Using Deep Learning Model	774
<i>Pattanapong Chantamit-o-pas and Madhu Goyal</i>	
A Method of Integrating Spatial Proteomics and Protein-Protein Interaction Network Data.	782
<i>Steven Squires, Rob Ewing, Adam Prügel-Bennett, and Mahesan Niranjan</i>	
Tuning Hyperparameters for Gene Interaction Models in Genome-Wide Association Studies	791
<i>Suneetha Uppu and Aneesh Krishna</i>	
Computational Efficacy of GPGPU-Accelerated Simulation for Various Neuron Models	802
<i>Shun Okuno, Kazuhisa Fujita, and Yoshiki Kashimori</i>	

A Haptics Feedback Based-LSTM Predictive Model for Pericardiocentesis Therapy Using Public Intraoperative Data	810
<i>Amin Khatami, Yonghang Tai, Abbas Khosravi, Lei Wei, Mohsen Moradi Dalvand, Jun Peng, and Saeid Nahavandi</i>	
Sleep Apnea Event Detection from Nasal Airflow Using Convolutional Neural Networks	819
<i>Rim Haidar, Irena Koprinska, and Bryn Jeffries</i>	
A Deep Learning Method to Detect Web Attacks Using a Specially Designed CNN	828
<i>Ming Zhang, Boyi Xu, Shuai Bai, Shuaibing Lu, and Zhechao Lin</i>	
An Integrated Chaotic System with Application to Image Encryption.	837
<i>Jinwen He, Rushi Lan, Shouhua Wang, and Xiaonan Luo</i>	
Fast, Automatic and Scalable Learning to Detect Android Malware	848
<i>Mahmood Yousefi-Azar, Len Hamey, Vijay Varadharajan, and Mark D. McDonnell</i>	
Intrusion Detection Using Convolutional Neural Networks for Representation Learning	858
<i>Zhipeng Li, Zheng Qin, Kai Huang, Xiao Yang, and Shuxiong Ye</i>	
Detect Malicious Attacks from Entire TCP Communication Process	867
<i>Peng Fang, Liusheng Huang, Xinyuan Zhang, Hongli Xu, and Shaowei Wang</i>	
Exploiting Cantor Expansion for Covert Channels over LTE-Advanced	878
<i>Zhiqiang He, Liusheng Huang, Wei Yang, and Zukui Wang</i>	
AI Web-Contents Analyzer for Monitoring Underground Marketplace	888
<i>Yuki Kawaguchi, Akira Yamada, and Seiichi Ozawa</i>	
Towards an Affective Computational Model for Machine Consciousness	897
<i>Rohitash Chandra</i>	
Measuring Self-monitoring Using Facebook Online Data Based on Snyder's Psychological Theories	908
<i>Ying Liu, Yongfeng Huang, and Xuanmei Qin</i>	
Coevolution of Cooperation and Complex Networks via Indirect Reciprocity	919
<i>Aizhi Liu, Lei Wang, Yanling Zhang, and Changyin Sun</i>	
Erratum to: A Brain Network Inspired Algorithm: Pre-trained Extreme Learning Machine	E1
<i>Yongshan Zhang, Jia Wu, Zhihua Cai, and Siwei Jiang</i>	
Author Index	927

Neural Information Processing

24th International Conference, ICONIP 2017,

Guangzhou, China, November 14–18, 2017,

Proceedings, Part V

Liu, D.; Xie, S.; Li, Y.; Zhao, D.; El-Alfy, E.-S.M. (Eds.)

2017, XVIII, 930 p. 334 illus., Softcover

ISBN: 978-3-319-70138-7