Contents

Design of a Simulation System for Cross-Eye Dynamic Jamming ................................................... 1
Zhang Yang, Shi Chuan and Dai Huanyao

Design and Implementation of Real-Time Data Exchange Software of Maneuverable Command Automation System ........... 13
Shi Chuan, Zhang Yang and Zhou Yuefei

Active Fault Tolerant Control for Flexible Spacecraft with Sensor Faults Using Adaptive Integral Sliding Mode ............ 23
Zhifeng Gao, Bing Han, Moshu Qian and Jing Zhao

Method of Detection Optimization Based on Vector Electric Field Multi-electrode Gradient Information ......................... 31
Jianjun Liu, Chao Wu, Guoyu Cui, Zheng Wang, Yubo Wang, Guofeng Pan, Guohua Liu, Chengbo Hu, Yongling Lu and Xujie He

Nonlinear Control Strategy of Split-Capacitor-Type Shunt Active Power Filter Based on EL Model .......................... 43
Yu Zhang, Qiming Cheng, Yinman Cheng, Fengren Tan, Jie Gao and Deqing Yu

Evolution of Cooperation in Spatial Prisoner’s Dilemma Game Based on Incremental Learning ................................. 53
Xiaowei Zhao, Zhenzhen Xu, Xu Han, Linlin Tian and Xijujuan Xu

A Novel Continuous Feedback Control for Rapidly Exponentially Stabilisation of Mechanical Systems ..................... 61
Tian Shi and Zhongbo Sun

Semantic Relation Driven SVM-Based Function Recognition for 3D Shape Components ..................................... 71
Lingling Zi and Xin Cong
Quantitative Analysis of Shear Mark Based on Maximum Lyapunov Exponent Algorithm  ........................................ 79
Bingcheng Wang and Chang Jing

Design and Production of a 3D Printing Robot Hand with Three Underactuated Fingers  ........................................ 87
Licheng Wu, Tianyi Lan and Xiali Li

The Simulation of a Linkage Underactuated Finger on Grasping Performance  .................................................. 97
Licheng Wu, Tianyi Lan and Xiali Li

EnhanEigen: A New Comprehensive Trust Model for Peer-to-Peer Network  ........................................ 105
Xiali Li, Qiao Gao, Licheng Wu, Xun Sun and Songting Deng

A Rubber Polymerization Conversion Soft Sensor Model Based on Improved ANFIS  .............................................. 115
Shi-wei Gao

Initial Attitude Estimation and Installation Errors Calibration of the IMU for Plane by SINS/CNS Integration  .......... 123
Weiping Yuan, Mingzhen Gui and Xiaolin Ning

An Improved Heuristic Algorithm for the Order Planning of Steelmaking Production  ........................................... 131
Liangliang Sun, Sisi Li, Yuanwei Qi and Tianmu Ma

Adaptive Fuzzy Dynamic Surface Control for AUVs via Backstepping  .......................................................... 143
Shijun Wang, Haisheng Yu, Lin Zhao, Yumei Ma and Jinpeng Yu

Self-organized Task Allocation in a Swarm of E-puck Robots ........................................ 153
Qiaoyu Li, Xiaolong Yang, Yuying Zhu and Jianlei Zhang

A New Circuit Design for Chaotic Oscillator  ........................................ 161
Wenjing Hu

Manifold Regularized Discriminative Canonical Correlation Analysis for Semi-supervised Data  ...................... 169
Hao Wu and Xudong Zhou

Robust Dual Stage Control for Inertially Stabilized Platform ........................................ 177
Jiangpeng Song, Di Zhou, Guangli Sun and Chunning Li

Directed Graph-Based Adaptive Attitude Cooperative Control for Fractionated Spacecraft  ......................... 185
Zhaoming Li and Jiejuan Wang
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research on Sensorless Control of PMSM Based on a Novel Sliding Mode Observer</td>
<td>193</td>
</tr>
<tr>
<td>Xiaqing Zhu</td>
<td></td>
</tr>
<tr>
<td>Ship Three-Axis Turntable Control Based on Fuzzy Inference Variable Universe</td>
<td>201</td>
</tr>
<tr>
<td>Huixuan Fu, Yuan Li, Zhongliang Zhang and Yuchao Wang</td>
<td></td>
</tr>
<tr>
<td>A Method of Fault Diagnosis Based on DE-DBN</td>
<td>209</td>
</tr>
<tr>
<td>Yajun Wang, Jia Zhang and Fang Deng</td>
<td></td>
</tr>
<tr>
<td>Detection of High Throughput Droplet in Microfluidic System</td>
<td>219</td>
</tr>
<tr>
<td>Yiming Yao, Minkai Li and Xiaojuan Chen</td>
<td></td>
</tr>
<tr>
<td>Dynamics Control and Simulation of Two DOF Robot</td>
<td>227</td>
</tr>
<tr>
<td>Yanping Yang, Haisheng Yu, Songfeng Pan and Zhencheng Zhou</td>
<td></td>
</tr>
<tr>
<td>Dynamic Decision Based Noncyclic Scheduling of Multi-cluster Tools</td>
<td>237</td>
</tr>
<tr>
<td>Yuanyuan Yan, Huanggang Wang and Wenhui Fan</td>
<td></td>
</tr>
<tr>
<td>Pattern Recognition of Artificial Legs Based on WPT and LVQ</td>
<td>247</td>
</tr>
<tr>
<td>Lei Liu, Yinmao Song, Peng Yang and Zuo Jun Liu</td>
<td></td>
</tr>
<tr>
<td>The Survey of Methods and Algorithms for Computer Game Go</td>
<td>255</td>
</tr>
<tr>
<td>Xial Li, Xun Sun, Licheng Wu, Songting Deng and Qiao Gao</td>
<td></td>
</tr>
<tr>
<td>On-line Monitoring of Batch Processes Using Additive Kernel Partial Least Square</td>
<td>263</td>
</tr>
<tr>
<td>Ziang Ma, Huanggang Wang and Junwu Zhou</td>
<td></td>
</tr>
<tr>
<td>Research for Path Planning in Indoor Environment Based Improved Artificial Potential Field Method</td>
<td>273</td>
</tr>
<tr>
<td>Hu Pan, Chen Guo and Zhaodong Wang</td>
<td></td>
</tr>
<tr>
<td>Active Learning Based Support Vector Data Description for Large Data Set Novelty Detection</td>
<td>283</td>
</tr>
<tr>
<td>Lili Yin, Huanggang Wang, Wenhui Fan and Qingkai Wang</td>
<td></td>
</tr>
<tr>
<td>Modeling and Analysis of the Driving Range for Electric Passenger Vehicles Based on Robust Regression Analysis</td>
<td>295</td>
</tr>
<tr>
<td>Ting Zhang, Jun Bi, Pan Wang and Longhui Li</td>
<td></td>
</tr>
<tr>
<td>Variable Pitch Fault Prediction of Wind Power System Based on LS-SVM of Parameter Optimization</td>
<td>303</td>
</tr>
<tr>
<td>Tao Liang and Yingjuan Zhang</td>
<td></td>
</tr>
<tr>
<td>Observability and Controllability Preservation for Multi-agent Systems with Time Delay and Time-Varying Topology</td>
<td>313</td>
</tr>
<tr>
<td>Xiangju Jiang, Zhijian Ji, Ting Hou and Fanggang Sun</td>
<td></td>
</tr>
</tbody>
</table>
A Classified Access Control Model Research for Cloud Computing ........................................ 327
Wenyi Shen, Linbo Tao, Bo Liu and Yishen Wang

Finite-Time Sliding Mode Control for Fractional-Order Gyroscope Systems with Unknown Parameters and Nonlinear Inputs .......... 335
Xiaomin Tian and Zhong Yang

Tracking Accuracy Research on FLL-Assisted PLL in Ultra-tightly Integrated Navigation System ..................... 347
Shenglan Wang and Yandong Wang

Feature-Based Monocular Real-Time Localization for UAVs in Indoor Environment ........................................ 357
Yu Zhang, Zhihao Cai, Jiang Zhao, Zhenxing You and Yingxun Wang

Scene Parsing with Deep Features and Per-Exemplar Detectors ...... 367
Xiaofei Cui, Hanbing Qu, Xi Chen, Ziliang Qi and Liang Dong

Design of a Temperature and Humidity Monitoring System for Plant Growth Cabinets Based on Data Fusion .................. 377
Shigang Cui, Kun Liu, Xingli Wu, Yongli Zhang and Lin He

Consensus of Heterogeneous Multi-agent Systems Based on Event-Triggered ........................................ 385
Zhiqiang Yan and Ronghao Wang

Xiaoping Ma, Honghui Dong, Limin Jia and Ruhao Zhao

Reliable Static Output Feedback Guaranteed Cost Control for Uncertain Systems with Time-Delay ......................... 407
Shuangquan Zou, Hao Yan and Lin Zhang

An Iterative Camera Pose Estimation Algorithm Based on EPnP ...... 415
Peng Chen

The Research on the Dynamic Performance Test Method Based on SPHS ..................................................... 423
Jun Xiao Li, Xue Mei Wang, Zhe Xu and Tong Wu

A New Tuning Approach to Second-Order Active Disturbance Rejection Control ............................................ 433
Xudong Shen, Wei Wei, Yanjie Shao and Min Zuo

RBF-ADRC Based Intelligent Course Control for a Twin Podded Ship ..................................................... 441
Zaiji Piao and Chen Guo
Human Action Recognition with Skeleton Data Using Extreme Learning Machine .................................................. 449
Ying Li, Xiong Luo, Weiping Wang and Wenbing Zhao

An Adaptive Dynamic Programming Control Scheme Using Tunable Radial Basis Function ................................. 457
Jianzhong Bi, Xiong Luo and Weiping Wang

Zhigang Zhao, Yongfeng Wei, Xinyan Wang, Ruixin Li and Jing Deng

A Domain Ontology Construction Method with Ontology Modification Effort Assessment ........................................ 473
Yuehua Yang, Yuan Ping, Junping Du and Hui Ma

Adaptive Generalized Function Projective Synchronization of Colored Networks in Finite Time ............................ 481
Guoliang Cai, Wenjun Shi, Yuxiu Li, Zhiyin Zhang and Gaihong Feng

The Comparative Study of Mars Entry Phase’s Guidance Methods ................................................................. 491
Maomao Li and Jun Hu

Feature Level Information Fusion Based Deep Learning ............ 501
Kejun Wang, Xuesen Hao and Xianglei Xing

Study on Optimal Setting of Decomposing Furnace Temperature Based on Soft Measurement ............................... 513
Hong Liang Yu, Guo Dong Lian and Xiao Hong Wang

Safe Diagnosis of Stochastic Discrete Event Systems by Constructing Safe Verifier ............................................. 523
Fuchun Liu and Pengbiao Yang

An Example for Extension Strategy of Tourism Industry Integration in Guizhou Province .................................... 531
Qiaoxing Li and Hongyan Zhao

An Evolutionary Algorithm for Optimal Tracking Gate Based on Hybrid Encoding .............................................. 539
Han Zhao, Cheng Zhang and Jiajun Lin

Study on Extension Design of Business Model .......................... 549
Qiaoxing Li and Tunhua Jiang

Adaptive Sliding Mode Control for an Active Gravity Offload System ............................................................. 561
Jiao Jia, Yingmin Jia and Shihao Sun
Four Quadrant Operation and Regenerative Braking Control of PMSM Drive Systems ................................................................. 571
Xinxin Cheng, Haisheng Yu and Jinpeng Yu

CMAC and NISM Integrated Controller for Twin-Rudder Twin-Propeller Ship Course Tracking .......................................... 581
Hongxin Wu, Chen Guo and Yingkai Lou

A Method for Topic Classification of Web Pages Using LDA-SVM Model ................................................................. 589
Yuliang Wei, Wei Wang, Bailing Wang, Bo Yang and Yang Liu

Adaptive Robust Control for a Class of Singular Systems with Actuator Saturation ............................................................. 597
Zhuang Cai, Hai-tao Song and Qi Tian

Trajectory Tracking Control for Omnidirectional Mobile Robots with Full-State Constraints .................................................... 605
Wenhao Zheng and Yingmin Jia

An Improved Extreme Learning Machine Model and State-of-Charge Estimation of Single Flow Zinc-Nickle Battery ........................................... 613
Xiaofeng Lin, Yang Guo, Jie Cheng, Zhenbang Guo and Xinglong Yan

A Unified Framework for Age Invariant Face Recognition and Age Estimation ................................................................. 623
Changhong Wu and Jianbo Su

Optical Flow Based Obstacle Avoidance and Path Planning for Quadrotor Flight ................................................................. 631
Huiqi Miao and Yan Wang

Opinion Leader Mining of Social Network Combined with Hierarchical Sentiment Analysis .................................................... 639
Hang Ye and Junping Du

Cloud Model Based Intelligent Control for Marine Hydraulic Steering Gear System ............................................................. 647
Yongfeng Huang, Chen Guo, Jianbo Sun and Yutong Huo

Tourism Information Search Based on Dynamic Attraction Topic Distribution ................................................................. 655
Lingfei Ye, Junping Du and Zijian Lin

Motion Transition Based on Bézier Quaternion Curve ................. 663
Yancai Lu and Shuling Dai

RBF Based Integrated ADRC Controller for a Ship Dynamic Positioning System ............................................................. 673
Fangfang Yang, Chen Guo and Yunbiao Jiang
Research of Localization Method Based on Virtual Reference Points in Robot Auditory System ........................................ 681
Shuopeng Wang, Peng Yang, Hao Sun, Jing Xu and Xiaomeng Zhang

Vehicle Tracking Based on Structured Output SVM Using Retinex and Mutual Information ........................................ 689
Longqi Wang, Xinyang Li, Guanyu Lin, Wei Pei and Guanrong Wang

Neural Network-Based Self-triggered Attitude Control of a Rigid Spacecraft .................................................. 697
Shuai Sun, Mengfei Yang and Lei Wang

Target Locating and Tracking Based on the Azimuth and the Change Rate of Doppler Frequency ....................... 709
Qingshan Fu, Shuaihu Tian and Xiaoyan Mao

The Embedded Implementation of Millimeter Wave Radar Signal Processing System ........................................ 721
Xingbo Ren, Zhiyuan Liu and Tengfei Fu

Monitoring System Design and Realization for Unmanned Mobile Robot Based on Web ........................................ 731
Yuchao Wang, Tianlong Huang, Guang Zou and Huixuan Fu

Visual-Inertial Tightly Coupled Fusion and Nonlinear Optimization for UAVs Navigation .............................. 741
Zhenxing You, Zhihao Cai, Jiang Zhao, Yu Zhang and Yingxun Wang

Model and Attitude Control of a Miniature Hybrid Autogyro ........... 751
Ziwei Song, Zhihao Cai, Kunpeng Li, Jiang Zhao and Ningjun Liu

Receding Horizon Control for Lateral Collision Avoidance of Intelligent Vehicles ........................................ 761
Siyu Lin, Zhiyuan Liu and Songyan Wang

Research on Cross Platform Model Display Technology of BIM .............................................................. 773
Junjie Huang, Jia Wang and Xiaoping Zhou

Hand Detection from Cluttered Images Based on a Hierarchical Strategy .................................................. 783
Jing Qi, Kun Xu and Xilun Ding
Proceedings of 2017 Chinese Intelligent Automation Conference
Deng, Z. (Ed.)
2018, XI, 791 p. 372 illus., Hardcover
ISBN: 978-981-10-6444-9