

# IEEE/CAA JOURNAL OF AUTOMATICA SINICA

A PUBLICATION OF THE IEEE AND CHINESE ASSOCIATION OF AUTOMATION

JANUARY 2024

VOLUME 11

NUMBER 1

IJASJC

(ISSN:2329-9274)

## PERSPECTIVE

Sustainable Mining in the Era of Artificial Intelligence .....  
..... *L. Chen, Y. Xie, Y. Wang, S. Ge, and F.-Y. Wang* ( 1 )

## REVIEWS

A Tutorial on Quantized Feedback Control .....  
..... *M. Fu* ( 5 )

Recent Progress in Reinforcement Learning and Adaptive Dynamic Programming for Advanced Control Applications  
..... *D. Wang, N. Gao, D. Liu, J. Li, and F. Lewis* ( 18 )

Orientation and Decision-Making for Soccer Based on Sports Analytics and AI: A Systematic Review .....  
..... *Z. Pu, Y. Pan, S. Wang, B. Liu, M. Chen, H. Ma, and Y. Cui* ( 37 )

Security and Privacy in Solar Insecticidal Lamps Internet of Things: Requirements and Challenges .....  
..... *Q. Zhao, L. Shu, K. Li, M. A. Ferrag, X. Liu, and Y. Li* ( 58 )

## PAPERS

Anomaly-Resistant Decentralized State Estimation Under Minimum Error Entropy With Fiducial Points for Wide-  
Area Power Systems ..... *B. Qu, Z. Wang, B. Shen, H. Dong, and H. Liu* ( 74 )

An Incentive Mechanism for Federated Learning: A Continuous Zero-Determinant Strategy Approach .....  
..... *C. Tang, B. Yang, X. Xie, G. R. Chen, M. Al-qaness, and Y. Liu* ( 88 )

Distributed Nash Equilibrium Seeking Strategies Under Quantized Communication .....  
..... *M. Ye, Q.-L. Han, L. Ding, S. Xu, and G. Jia* (103)

Feature Matching via Topology-Aware Graph Interaction Model .....  
..... *Y. Lu, J. Ma, X. Mei, J. Huang, and X.-P. Zhang* (113)

Adaptive Optimal Discrete-Time Output-Feedback Using an Internal Model Principle and Adaptive Dynamic Pro-  
gramming ..... *Z. Wang, Y. Wang, and Z. Kowalczyk* (131)

Autonomous Vehicle Platoons In Urban Road Net- works: A Joint Distributed Reinforcement Learning and Model  
Predictive Control Approach . . . *L. D'Alfonso, F. Giannini, G. Franzè, G. Fedele, F. Pupo, and G. Fortino* (141)

Learning to Branch in Combinatorial Optimization With Graph Pointer Networks .....  
..... *R. Wang, Z. Zhou, K. Li, T. Zhang, L. Wang, X. Xu, and X. Liao* (157)

Control Strategies for Digital Twin Systems .....  
..... *G.-P. Liu* (170)

# IEEE/CAA JOURNAL OF AUTOMATICA SINICA

A PUBLICATION OF THE IEEE AND CHINESE ASSOCIATION OF AUTOMATION

JANUARY 2024

VOLUME 11

NUMBER 1

IJASJC

(ISSN:2329-9274)

## PERSPECTIVE

Sustainable Mining in the Era of Artificial Intelligence .....  
..... *L. Chen, Y. Xie, Y. Wang, S. Ge, and F.-Y. Wang* ( 1 )

## REVIEWS

A Tutorial on Quantized Feedback Control .....  
..... *M. Fu* ( 5 )

Recent Progress in Reinforcement Learning and Adaptive Dynamic Programming for Advanced Control Applications  
..... *D. Wang, N. Gao, D. Liu, J. Li, and F. Lewis* ( 18 )

Orientation and Decision-Making for Soccer Based on Sports Analytics and AI: A Systematic Review .....  
..... *Z. Pu, Y. Pan, S. Wang, B. Liu, M. Chen, H. Ma, and Y. Cui* ( 37 )

Security and Privacy in Solar Insecticidal Lamps Internet of Things: Requirements and Challenges .....  
..... *Q. Zhao, L. Shu, K. Li, M. A. Ferrag, X. Liu, and Y. Li* ( 58 )

## PAPERS

Anomaly-Resistant Decentralized State Estimation Under Minimum Error Entropy With Fiducial Points for Wide-  
Area Power Systems ..... *B. Qu, Z. Wang, B. Shen, H. Dong, and H. Liu* ( 74 )

An Incentive Mechanism for Federated Learning: A Continuous Zero-Determinant Strategy Approach .....  
..... *C. Tang, B. Yang, X. Xie, G. R. Chen, M. Al-qaness, and Y. Liu* ( 88 )

Distributed Nash Equilibrium Seeking Strategies Under Quantized Communication .....  
..... *M. Ye, Q.-L. Han, L. Ding, S. Xu, and G. Jia* (103)

Feature Matching via Topology-Aware Graph Interaction Model .....  
..... *Y. Lu, J. Ma, X. Mei, J. Huang, and X.-P. Zhang* (113)

Adaptive Optimal Discrete-Time Output-Feedback Using an Internal Model Principle and Adaptive Dynamic Pro-  
gramming ..... *Z. Wang, Y. Wang, and Z. Kowalczyk* (131)

Autonomous Vehicle Platoons In Urban Road Net- works: A Joint Distributed Reinforcement Learning and Model  
Predictive Control Approach . . . *L. D'Alfonso, F. Giannini, G. Franzè, G. Fedele, F. Pupo, and G. Fortino* (141)

Learning to Branch in Combinatorial Optimization With Graph Pointer Networks .....  
..... *R. Wang, Z. Zhou, K. Li, T. Zhang, L. Wang, X. Xu, and X. Liao* (157)

Control Strategies for Digital Twin Systems .....  
..... *G.-P. Liu* (170)

---

Path Planning and Tracking Control for Parking via Soft Actor-Critic Under Non-Ideal Scenarios .....	X. Tang, Y. Yang, T. Liu, X. Lin, K. Yang, and S. Li (181)
Analysis and Design of Time-Delay Impulsive Systems Subject to Actuator Saturation .....	C. Zhu, X. Han, and X. Li (196)
Data-Driven Learning Control Algorithms for Unachievable Tracking Problems .....	Z. Zhang, H. Jiang, D. Shen, and S. Saab (205)
Practical Prescribed Time Tracking Control With Bounded Time-Varying Gain Under Non-Vanishing Uncertainties .....	D. Luo, Y. Wang, and Y. Song (219)
Point Cloud Classification Using Content-Based Transformer via Clustering in Feature Space .....	Y. Liu, B. Tian, Y. Lv, L. Li, and F.-Y. Wang (231)
Non-Deterministic Liveness-Enforcing Supervisor Tolerant to Sensor-Reading Modification Attacks .....	D. You and S. Wang (240)

---

## LETTERS

Protocol-Based Non-Fragile State Estimation for Delayed Recurrent Neural Networks Subject to Replay Attacks .....	F. Yang, H. Dong, Y. Shen, X. Li, and D. Dai (249)
Multimodal Data-Driven Reinforcement Learning for Operational Decision-Making in Industrial Processes .....	C. Liu, Y. Wang, C. Yang, and W. Gui (252)
Heterogeneous Image Knowledge Driven Visual Perception .....	L. Yan, W. Zheng, and F.-Y. Wang (255)
Control of 2-D Semi-Markov Jump Systems: A View from Mode Generation Mechanism .....	Y. Men, J. Sun, and J. Chen (258)
Prescribed-Time Fully Distributed Nash Equilibrium Seeking Strategy in Networked Games .....	C. Qian and L. Ding (261)
An Information-Based Elite-Guided Evolutionary Algorithm for Multi-Objective Feature Selection .....	Z. Wang, S. Gao, Z. Lei, and M. Omura (264)
Fixed-Time Consensus-Based Nash Equilibrium Seeking .....	M. Sun, J. Liu, L. Ren, and C. Sun (267)
Reinforcement Learning-Based MAS Interception in Antagonistic Environments .....	S. Sun, D. Cai, H.-T. Zhang, and N. Xing (270)
Autonomous Recommendation of Fault Detection Algorithms for Spacecraft .....	W. Li and B. Ning (273)
Distributed Optimal Formation Control for Unmanned Surface Vessels by a Regularized Game-Based Approach .....	J. Shi and M. Ye (276)

---

IEEE/CAA JOURNAL OF AUTOMATICA SINICA

Vol. 11 No. 1 January 2024

自 动 化 学 报 (英文版)

第 11 卷 第 1 期 2024 年 1 月

Edited by	Editorial Board of IEEE/CAA Journal of Automatica Sinica Add: 95 Zhongguancun East Road, Beijing 100190, China Tel: 010-82544459 E-mail: jas@ia.ac.cn	编 辑	《自动化学报》(英文版) 编辑委员会 地址: 北京中关村东路 95 号 邮政编码: 100190 电话: 010-82544459 E-mail: jas@ia.ac.cn
Editor-in-Chief	Qing-Long HAN	主 编	韩清龙
Administrated by	Chinese Association for Science and Technology	主 管	中国科学技术协会
Sponsored by	Chinese Association of Automation, Institute of Automation, Chinese Academy of Sciences, and China Science Publishing & Media Ltd.	主 办	中国自动化学会 中国科学院自动化研究所 中国科技出版传媒股份有限公司
Published by	China Science Publishing & Media Ltd. Add: 16 Donghuangchenggen North Street, Beijing 100717, China	出 版	中国科技出版传媒股份有限公司 地址: 北京东黄城根北街 16 号 邮政编码: 100717 电话: 010-64019820
Printed by	Beijing Kexin Printing Co., Ltd	印刷装订	北京科信印刷有限公司
Copyright © 2024 IEEE/CAA Journal of Automatica Sinica. All rights reserved.			

CN 10-1193/TP

邮发代号 80-604

RMB ¥210.00