

2024 8th International Workshop on Control Engineering and Advanced Algorithms (IWCEAA 2024)

**Nanjing, China
1 – 3 November 2024**



**IEEE Catalog Number: CFP247A3-POD
ISBN: 979-8-3315-2889-8**

**Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

| | |
|-------------------------|-------------------|
| IEEE Catalog Number: | CFP247A3-POD |
| ISBN (Print-On-Demand): | 979-8-3315-2889-8 |
| ISBN (Online): | 979-8-3315-2888-1 |

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Contents

| | |
|--|----|
| Research on Fault Diagnosis Method for Ship Construction Equipment Based on Hidden Markov Model | 1 |
| Xinyu Liu | |
| Research of Continuous Thermoplastic Coating Equipment Based on Virtual Simulation | 5 |
| Lingyan Hu, Haixin Xue, Tianyi Chenzhuang, Meng Cao, Chunping Yuan, Huiming Hou | |
| A Stable Control Framework for Continuous Robot-Assisted Training | 10 |
| Yaqi Zhang, Rui Zou, Chen Wang | |
| Research on Adaptive RBF Neural Network Flight Control for Tilt-Rotor Quadrotor | 14 |
| Jiayang Qian, Rui Ma, Wenjing Zhou, Qiang Gu | |
| Knock Analysis for A Small-Size Two-Stroke Spark-Ignition Marine Engine | 19 |
| Weiwei Cheng, Siyu Liu, Rui Liu, Hui Yi | |
| Adaptive Sliding Mode Trajectory Tracking Control of Mobile Robots | 24 |
| Tao Wu, Muxia Cai, Xiaodong Miao | |
| Chaotic Motion Control Strategy for Gear System Based on RNN | 29 |
| Xiaojuan Wei, Xiaoqi Li, Ningzhou Li, Sixuan Qiu | |
| Bias calibration of X-band radar reflectivity factor system based on parametric self-consistency principle | 34 |
| Caizheng Guo, Wei Wang, Zihao Long, Yingtao Wei | |
| Low Power Consumption Optimization Control of Air Conditioning for UAV Nest on Tower Based on EM Algorithm | 39 |
| Miao Wang, Junnan Liu, Xiaojie Wu, Wenbin Wu, Jianfeng Ye | |
| Adaptive PID Control for Autonomous Vehicle Motor Regulation: Design and Simulation Using MATLAB | 43 |
| Xiaoquan Ren, Kaibo Jin | |
| Research on Improved Kalman Filtering and Robust Identification for Dynamic Power System State Estimation | 47 |
| Shijie Gao, Yong Wu, Zhihua Deng, Pan Wang | |
| Research on Open Parallel Scheduling Problems in the Standard Gas Manufacturing Industry | 55 |
| Guoao Chen, Yupu Li, Chao Wu, Fenggang Zhao, Min Chen, Wenhao Huang, Dingwen Zhang, Ding Liu | |
| The Mode of Speed Control and Safety Discussion of The Permanent Magnet Cynchronous Elevator Based on Fuzzy Logic Control | 59 |
| Zhaoling Xue | |
| Optimizing IIR Filter Design Using Multi-Objective Genetic Algorithm: A Focus on Passband Ripple and Stopband Attenuation | 64 |
| Yifan Wu | |
| Optimization Design of Regional Coverage Remote Sensing Constellation Based on Improved Particle Swarm Optimization Algorithm | 70 |
| Liu Zhang, Jiale Zhou, Xueying Lv | |

| | |
|--|-----|
| Research on the Comprehensive Performance Evaluation Method of Genetic Algorithm Based on Euclidean Distance Minimization | 76 |
| Donglin Gao, Honglei Qin, Fuhe Li | |
| The HEFT Algorithm Based on Node Merging | 81 |
| Ying Huang, Yuanhong Lu, Jie Zhang, Jingyue Zhang, Haiping Guo | |
| Design A Emergency Response Process of Automobile Cybersecurity | 85 |
| Meng Han, Xingpei Bian, Haijun Wang, Jing Liu, Xu Liu | |
| Swish Function Based LMS Algorithm With Variable Step Size | 90 |
| Minghao Zhao, Haijun Zhao, Zekui Zhou, Xulong Wang | |
| MCFOF: Multi-Compilation Fusion Optimization Framework Using ROSE Compiler Infrastructure | 95 |
| Chen Wang, Yuanyuan Ma, Sheng Zhu, Chenhan Lin, Wen Ji | |
| Research on Phase Noise Measurement Algorithm of Quadrature Digital Demodulation | 103 |
| Yawei Liu, Ziqi Guo, Shuming Bin, Shusong Gao, Xiaoyan Jiang, Xiaolong Chen | |
| Generalized Udwadia–Kalaba Based Robust Control for Human-Machine Systems with Inequality Constraints | 107 |
| Zhenbin Zhou, Cui Wei, Yehwa Chen | |
| Key Quality Characteristics Identification Based on GSCV-RF-RFE | 111 |
| Xiaofang Wu, Min Ai, Xiao Feng | |
| Based on Dual-Channel Feature Selection for NO_x Concentration Prediction using Informer | 119 |
| Feng Zhao, Hui Yi, Yuheng Chai, Lu Dong, Zhilong Xu | |
| A Chat Bot for Enrollment of Xi 'an Jiaotong-Liverpool University Based on RAG* | 125 |
| Liwei Xu, Jiarui Liu | |
| A domain-level transformation scenario classification algorithm based on multilevel feature representation | 130 |
| Shen Wu, Jiayin Yu | |
| Facial Negative Emotion Recognition of Special Employees Based on Machine Vision | 135 |
| Shuai Meng, Peng Liu, Xue Mei, Jiaxin Jiang | |
| The Research on Galaxy Image Classification Model Based on ResNet18 and Transfer Learning | 139 |
| Yangyang Guo, Peng Liu, Xue Mei, Zhou Yang | |
| Research on Fire Risk Assessment of Substation Based on Cloud Computing Model | 143 |
| Yongsheng Liu, Gehao Liu, Hongyu Xu, Kaibo Zhang, Haohang Yu | |
| State of Health Estimation For Lithium Battery Via Indirect Health Factor With Gaussian Process Regression | 147 |
| Pinzheng Tan, Hailin Feng | |
| Multi-hop Inference Networks Based on Contrastive Learning | 152 |
| Haiyan Zhuang, Yongli Wang | |
| Author Index | 158 |