

2024 12th International Conference on Intelligent Control and Information Processing (ICICIP 2024)

**Nanjing, China
8 – 10 March 2024**



**IEEE Catalog Number: CFP2489J-POD
ISBN: 979-8-3503-0803-7**

**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: | CFP2489J-POD |
| ISBN (Print-On-Demand): | 979-8-3503-0803-7 |
| ISBN (Online): | 979-8-3503-0802-0 |
| ISSN: | 2835-9569 |

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

| | |
|--|----|
| Excavation Trajectory Research for Mining Electric Shovel Using Sliding Mode Control Strategy Based on Disturbance Observer | 1 |
| <i>Hao Yu, Yu Tang, Gang Shen, Shuaifu Wang</i> | |
| Placement Path Optimization of Placement Machine Based on Rule Learning Iterative Method..... | 9 |
| <i>Liwu Yu, Zhiguang Feng</i> | |
| Analytic Hierarchy Process-Based Control System Optimization for Buck Circuit Using Genetic Algorithm | 15 |
| <i>Xuan Yang, Xudong Gao, Wenjie Cao, Songlin Xu</i> | |
| Observer-Based Resilient Consensus for Multi-Agent Systems Modeled by PDEs Under DoS Attacks..... | 20 |
| <i>Chuanhai Yang, Qingshan Liu</i> | |
| An Effective Hybrid Jellyfish Search Algorithm for Multi-AGVs Path Planning..... | 28 |
| <i>Xiaojie Chen, Qingtao Wu, Xuhui Zhao, Shan Yao, Xi Chen, Mingchuan Zhang</i> | |
| Drug Toxicity Classification Based on ReliefF and K-Means Algorithm | 34 |
| <i>Luyao Wang, Meirong Bai, Hongkai Zhao, Sen Qiu, Zhelong Wang, Hongyu Zhao</i> | |
| Control of Unmanned Bicycle Based on Tensor Product Model Transformation and Hammersley Sampling Method | 39 |
| <i>Depeng Xie, Degang Wang, Guoliang Zhao, Hongxing Li</i> | |
| Data-Driven Optimal Traffic Signal Control with Phase Priority and Switching Cost | 47 |
| <i>Xiaofeng Li, Jiahui Jiang</i> | |
| PLoc: A New Evaluation Criterion Based on Physical Location for Autonomous Driving Datasets | 55 |
| <i>Ruining Yang, Yuqi Peng</i> | |
| Iterative Learning Algorithm of Upper Limb Rehabilitation Robot Based on BP Neural Network..... | 62 |
| <i>Zaixiang Pang, Xiaomeng Deng, Linan Gong, Nan Wang</i> | |
| Real-Time Detection of Safety Helmet and Workwear Based on YOLOv7 | 70 |
| <i>Piqi Tang, Jun Xing, Xinzhe Wang, Jianchao Fan</i> | |
| Short-Term Power Load Forecasting Based on CEEMDAN-CNN-LSTM Hybrid Modeling | 75 |
| <i>Zihan Chen, Guici Chen, Wenbo Wang, Jie Liu</i> | |
| Distributed Nash Equilibrium Seeking for High-Order Dynamics with Event-Triggered Communication | 83 |
| <i>Zhijie Chen, Jianing Chen, Zexiang Li, Sitian Qin</i> | |
| A Method for Large Scale Unconstrained Binary Quadratic Programming Problem Based on Graph Neural Network | 91 |
| <i>Jiajia Huang, Shenshen Gu</i> | |
| Research on Collaborative Salient Object Detection Using Collaborative Feature Integration and Extraction | 99 |
| <i>Yachun Chen, Mengqi Lu, Yu Sun, Nina Zhang, Yanlong Zhou, Dehua Zhang</i> | |

| | |
|--|-----|
| DWT-RT: A Lightweight Image Deraining Model Based on Discrete Wavelet Transforms | 107 |
| <i>Yongliang He, Qinyou Zhou, Yong Chen, Yingjie Cui</i> | |
| Adaptive Leader-Follower Formation Control Using k-WTA and Improved Artificial Potential Fields | 113 |
| <i>Yang Liu, Ning Tan</i> | |
| Adaptive Deep Neural Network Optimized Backstepping Control for a Class of Nonlinear Strict-Feedback Systems | 119 |
| <i>Jian Wu, Hongwei Lu, Wei Wang</i> | |
| Digital Twin and Parallel Control for Automatic Berthing of Maritime Autonomous Surface Ships..... | 129 |
| <i>Zhaochen Wang, Nan Gu, Ronghui Li, Dan Wang, Lu Liu, Zhouhua Peng</i> | |
| Dual-Wavelength Phase-Tilting Iteration and Local Time-Shifting Least Squares for Dual-Channel Dynamic White-Light Inteferometry | 136 |
| <i>Minaliang Duan, Yi Zong, Zhenyu Lu, Jianxin Li</i> | |
| Sonar Object Detection Based on Global Context Feature Fusion and Extraction..... | 142 |
| <i>Wenwei Wu, Xiaonan Luo</i> | |
| On the Connection Between Saliency Guided Training and Robustness in Image Classification..... | 150 |
| <i>Ali Karkehabadi, Parisa Oftadeh, Danial Shafaie, Jamshid Hassanpour</i> | |
| Encoding Variable Stiffness Skills with Interaction Force and Motion Information for Robot-Environment Interaction | 158 |
| <i>Ran Cao, Long Cheng</i> | |
| An Image Decomposition-Based Enhancement Using a Matrix Iterative Algorithm..... | 167 |
| <i>Yao Xiao, Youshen Xia</i> | |
| Adaptive Crossover Selection for Differential Evolution to Solve Global Optimization Problems | 175 |
| <i>Islam Taharimul, Zhuo-Yin Qiao, Qiang Yang, Xu-Dong Gao, Zhen-Yu Lu</i> | |
| A Vehicle Detection Method Based on Convolutional Neural Network Optimized by Genetic Algorithm | 183 |
| <i>Qingqing Sun</i> | |
| An Early Warning Model for Equipment Based on State Vector and LSTM | 190 |
| <i>Dongpo Liu, Qingmin Yu, Lei Zang, Qiuhong Yu, Qiuping Zheng, Sicong Yu</i> | |
| Higher-Order Link Prediction Based on Message Passing Simplicial Networks | 195 |
| <i>Jun Fu, Chen Chao</i> | |
| Underwater Robot Target Detection Based on Improved YOLOv5 Network | 202 |
| <i>Siyuan Yuan, Xiaonan Luo, Ruishu Xu</i> | |
| Improved YOLOv5-Based Method for Tiny Defect Detection on Steel Plate..... | 208 |
| <i>Jiwei Yu, Zhihang Ji, Yang Yu, Muhua Liu, Lin Wang, Xuhui Zhao, Ruijuan Zheng</i> | |
| Improving Optimizers by Runge-Kutta Method: A Case Study of SGD and Adam..... | 216 |
| <i>Dan Su, Qihai Jiang, Enhong Liu, Mei Liu</i> | |
| Tendency Coefficient-Based Weighted Distance Measure for Intuitionistic Fuzzy Sets with Applications..... | 223 |
| <i>Manasseh Terna Anum, Hanyin Zhang, Paul Augustine Ejegwa, Yuming Feng</i> | |

A Small Object Detection Method for Cordyceps Based on Improved YOLOv8 231
Guangjian Dai, Jicheng Yao, Jingsong Zhou, Li Shen, Tonglin Zhu, Yingsheng Hua, Xinyun
Zhang

Author Index