2024 International Conference on **Intelligent Computing and Data** Mining (ICDM 2024)

Chaozhou, China **20-22 September 2024**



IEEE Catalog Number: CFP24VW4-POD ISBN:

979-8-3315-0627-8

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:
 CFP24VW4-POD

 ISBN (Print-On-Demand):
 979-8-3315-0627-8

 ISBN (Online):
 979-8-3315-0626-1

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-040

Phone: (845) 758-0400 Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



Table of Contents

Weather prediction model based on CNN-BiLSTM-Attention	1
Junjie Wang, Hui Wang, Kangshun Li	1
Design of redundancy monitoring system for submarine observation network	
Jin Chen, Xiaofei Wei	6
Probabilistic Safety Verification of Stochastic Hybrid Systems Using Probably Approximately Correct Barrier Certificates	10
Zixuan Yang	
Research on water quality prediction based on CEEMDAN-OVMD-DNN-GRU model Lei Xiao, Yunyi Shi	15
Research on Electricity Price Prediction Technology Based on Mode Decomposition and Deep Learning	21
Rongzhou Liao, Siqi Ye	
Research on Image Denoising Algorithm Based on Spectrum Information	25
Ziyu Huang	27
Application of deep learning in building shock absorption layout	22
Qingzhe Xu	33
Research on Impact Modeling and Risk Assessment of Software Requirements Change based on Dependency Structure Matrix	37
Jintang Lin, Bing Li	
Precision Trajectory Control for Agricultural Harvesting Robots: Design and Implementationn	42
Zhipan Wu, Zeyu Zhang, Yunhe Jiang, Huaying Du	
The Positioning Error Analysis of the LOFIX Method to the Underwater Target on Considering Multiple Factors	49
Zhichao Shan, Shuangyue Cui, Xiaoqing Zheng, Dawei Li	
PSO-Based Throughput Optimization for IPv6 Packet Broadcasting in WPSN Aided by UAVs	54
Shuwei Qiu, Mahammad Humayoo, Zexun Zhou, Wei Huang, Xiaoqing Dong	_
Improved Brain Tumor Segmentation Framework Based on Multimodal MRI and Cascaded Segmentation Strategy	58
Buhailiqiemu Awudong, Qi Li	
Impact of Redundant Inputs on Octorotor Using Linear Quadratic Regulator	(2)
Wanyi Li, Yinghui Zhu, Zhongxing Peng	62
GSFormer: A Gated Skip Connection and Feature Fusion Transformer-based Neural Network for 3D MRI Brain Tumor Segmentation	67
Zexun Zhou, Peitao Wang, Xiaochun Yu, Wei Huang, Yinghui Zhu, Xiaoshan Lin	
A Study of Imbalanced Medical Image Classification Based on Self-Supervised Learning Incorporating Attention Mechanisms	72
Mingchen Xie, Hui Wang, Kangshun Li	
Power Marketing Based on Deep Reinforcement Learning Can Explain Large Data Mining Methods	77
Lihua Gong, Qinghua Xiao, Yuchen Song, Wei Liu, Linlin Gu, Hua Zhou	

Research on Methods for Balancing Component Sample Categories Under Rule Constraints	81
Huixin Liu, Chuanwen Wu, Yang Wang, Xiaoli Bao	01
An Efficient Method for Sharing Information in the Wellbore Engineering Data Center Stage Applying Ubiquitous Sensing Networks	86
Tao Chen, Rongfeng Zhong, Fan Liu	
Performance Study on Normalization and Denormalization in MES System Databases	90
Fang Zhou, Ying Gao	70
Research on Electric Vehicle Sales Strategy Based on Consumer Satisfaction Data	95
Leping Liu, Yingjie Huang, Zexin Lin, Lingchan Li, Yang Yang, Quanshan Zheng	75
Design and implementation system and statistical model for precision evaluation of	
measurement methods	101
Gang Wu, Fan Zhang, Jing Zhao, Xuan Zhang	
Improvements in Sparse Response Surfaces for Engineering Optimization: A Reweighting Approach	105
Pu Li, Yunbao Huang, Songxi Hu, Senquan Yang	
Online monitoring method of electric power enterprise operation state based on data driving	110
Jiang Jiang, Xiaoqiang Feng, Zhen Chen	110
Extraction Method of Disturbance Elements of Urban Emergencies Based on Large Language Model	115
Jian Xu, Anrong Dang, Yang Chen, Mingyu Zhao, Bijiao Sun, Hua Wang, Zhuokun Xie	110
Glance at Pecan Street Dataset and Its Application to Energy Disaggregation	
Zhongxing Peng, Yinghui Zhu	119
A Local Differential Privacy Preservation Method for High-dimensional Data Based on Big Data Mining	124
Weiping Su, Yinghan Hong	
Short-term Popularity Forecasting Method of Retail Products Based on Combined LSTM-XGBoost Model	129
Xipeng Liu, Chao Deng, Bin Lu, Yuhua Mo, Paiyu Li, Kaidi Chen	
Design of a Sports Rehabilitation Evaluation Scheme Based on MediaPipe Technology	
Cai Guo, Yinghan Hong, Sirui Liang, Peiji Lin, Chunyun Li, Xiaotong Wu, Miaoling Yang, Ke Hong	134
Author Index	139