

2024 IEEE First International Conference on Data Intelligence and Innovative Application (DIIA 2024)

**Nanning, China
23-25 November 2024**



**IEEE Catalog Number: CFP24VX8-POD
ISBN: 979-8-3315-0444-1**

**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:	CFP24VX8-POD
ISBN (Print-On-Demand):	979-8-3315-0444-1
ISBN (Online):	979-8-3315-0443-4

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

Efficient Phase Classification in Aluminum-Containing High Entropy Alloys Using Machine Learning	1
<i>Lei Zhang, Jinde Huang</i>	
Application of Intelligent Schedule Management in Volunteer Service System	7
<i>Yongxin Li, Xiaonan Luo</i>	
Identifying Risk Factors for Depression and Anxiety Among Rural Children in China: A Machine Learning Approach	12
<i>Yufeng Lin, Shengbin Yang</i>	
UNet-Based YOLO for Underwater Object Detection.....	27
<i>Haigui Zhu, Xiaonan Luo, Zhongyi Zhai, Ji Li, Fang Li, Xiaoshu Zhu</i>	
Mathematical Model of Tuberculosis with Seasonality.....	34
<i>Zhonghua Ling, Luling Duan</i>	
Research on the Influencing Factors of Rural Primary School Teachers' Information Technology Application Ability	38
<i>Zhonghua Ling, Yushan Gao, Ming Qiu</i>	
Research on Strategies and Measures for Enhancing Digital Literacy of College Teachers in the Era of Smart Education.....	43
<i>Weiping Lu, Hongxia Liang</i>	
A Facial Micro-Expression Recognition Method Based on Box-Attention Mechanism and MultiScale Feature Fusion.....	46
<i>Mengyao Tang, Jiangtao Huang, Li Tang, Qingkai Tang</i>	
CS-DCFPN: An Object Detection Model.....	56
<i>Zhao Yuan, Xiao Qin, Haojie Huang, Changan Yuan, Huixian Liao, Xin Chun, Kunsheng Wu, Wenji Wang, Jinyong Zhang</i>	
Bi-YOLOv10: Sample Imbalance-Aware Feature Fusion-Based Object Detection for Power Inspection	63
<i>Man Wu, Gaocai Wang, Wei Zhang, Lili Wen, Hui Qu</i>	
A Remote Sensing Object Classification and Extraction Method Based on Improved U-Net	69
<i>Lili Wen, Hui Qu, Man Wu, Junxiang Lai, Wei Zhang</i>	
Scene Text Image Super-Resolution Guided by Frequency Domain Enhancement and Feature Refinement	76
<i>Huan Yang, Nan Wang</i>	
Chinese Text Classification Method Based on Double Pre-Processed Graph Aggregation Network.....	83
<i>Yixian He, Jianhui Jiang, Dingjia Chen, Molan Tang, Biquan Chen, Weiqing Chen</i>	
Chinese Text Classification Method Based on Graph Embedding Residual Bidirectional Long Short-Term Neural Network.....	90
<i>Jianhui Jiang, Xiao Qin, Dingjia Chen, Molan Tang, Biquan Chen, Weiqing Chen</i>	
Anime Face Recognition Method Based on Multi-Scale Channel Attention	97
<i>Jianhui Jiang, Xiao Qin, Biquan Chen, Molan Tang, Xiao Huang, Li Miao</i>	

MultiML: A Machine Learning Model Construction Tool Based on Multidimensional Views.....	104
<i>Yihe Zhang, Jie Liu, Tianhao Zhang, Xingmei Chen, Weichao Guo, Xinguo Chen</i>	
Research on the Development of a Campus Comprehensive Service App for College Students	111
<i>Chenlin Wang, Haitao Zhang, Xiaoyan Feng</i>	
Framework Design and Implementation of the AI Aided Process Designing Platform for Shipbuilding Industry	118
<i>Xiaoyang Liang, Yanjun Ma, Meng Xi, Fei Li</i>	
A Novel Motor Imagery Decoding Method Based on MODWT and Light-Weight CNN	125
<i>Wei Duan, Tinglei Huang, Jie Liu</i>	
Quantitative Research on Regional Large Language Models Policy Texts Based on Bertopic.....	129
<i>Hongjun Huang, Jiyuan Zhang, Senhao Wei, Fu Huang</i>	
Changes in Subjective Well-Being of Vocational Education of Normal Students: The Effect of the Mental Health and Life Education.....	134
<i>Jiefei Wang</i>	
Denoising Diffusion Probabilistic Imputation Model for Tabular Data	143
<i>Jianbin Lu, Shuai Han, Weidong Chen, Leping Sun</i>	
The Method of Spatiotemporal-Frequency Multidimensional Feature Fusion Based on Emotional EEG Signals	151
<i>Weichao Guo, Jie Liu, Yihe Zhang, Tinglei Huang</i>	
On the SWIPT Based Task Offloading Strategy of Multi-User D2D Assisted Mobile Edge Computing.....	160
<i>Taoshen Li, Lijun Du</i>	
Resource Allocation Algorithm for Maximizing Reachable Rate in Unmanned Aerial Vehicle Relay Network.....	167
<i>Taoshen Li, Junzhi Xu, Zhihui Ge</i>	
A Visual Analysis of the Current Status, Hotspots, and Evolution of International Mental Health Literacy Research Based on CiteSpace Science Knowledge Mapping	175
<i>Hongxia Liang, Ming Qiu</i>	
Construction of Learning Community for Rural Math Teachers and Normal School Students Based on Digital Literacy Enhancement: Value, Features, and Pathways.....	181
<i>Xiaohua Que, Xiujin Mo</i>	
Plant Leaf Classification Based on Efficient Attention Mechanism ECSA.....	185
<i>Lei Peng, Xiao Qin, Wenji Wang, Yunqin Fu, Sijing Tan, Yongyu Li</i>	
Research on Text Classification Based on Improved Graph Convolution Neural Network	191
<i>Baiqi Meng, Sijing Tan, Xiao Qin, Zhengyou Qin, Peng Lei, Quanmei Qian, Hongfei Lu, Hongchun Zheng</i>	
BGNN-TC: BERT GNN Based Text Classification Algorithm.....	199
<i>Jianbo Zhao, Xiao Qin, Lei Peng, Jinyong Zhang, Wenji Wang, Hongchun Zheng</i>	
A Text Classification Model of Graph Convolutional Neural Network Based on Attention Mechanism	207
<i>Yi-Fan Quan, Xiao Qin, Xiao-Lian Li, Yi-Long Yan, Guo-Dui He, Zheng-You Qin</i>	

Implementation of Person Re-Identification Algorithm Based on Huawei Mindspore and Pytorch Hybrid Architecture	214
<i>Chao Deng, Xiaochen Yang, Xiao Qin, Lei Peng, Jinyong Zhang, Wenji Wang, Quanmei Qian, Jianbo Zhao</i>	
Fine-Grained Image Classification Model M-ResNet50 Based on Small Collar Dataset	225
<i>Xiaochen Yang, Xiao Qin, Baiqi Meng, Xiaolian Li, Shanshan Ya</i>	
Dependency Parse Graph Neural Network for Text Classification	232
<i>Xiaolian Li, Lei Peng, Xiao Qin, Sijing Tan, Baiqi Meng, Hongfei Lu</i>	
Research on Collar Image Classification Integrating Convolutional Neural Networks and Attention Mechanisms	239
<i>Yilong Yan, Xiao Qin, Lei Peng, Xiaochen Yang, Yongyu Li, Xiaolian Li, Shanshan Ya, Zhengyou Qin</i>	
Crossing the Screen: How Metaverse Technology is Reshaping Film Narratives and Audience Interaction.....	246
<i>Dai Linfeng</i>	
Research on Canteen Pedestrian Flow Prediction Model Based on Improved Gradient Boosting Decision Tree.....	250
<i>Xiaolan Liu, Jingjing Sun, Yuan Sun, Fang Zhang, Kaizhen Zhang</i>	
Few-Shot Learning for Image Classification.....	254
<i>Peining Chen, Xiaonan Luo</i>	
Facial Recognition-Based Classroom Attendance System Utilizing Deep Learning	260
<i>Cong Zhou, Xiaonan Luo</i>	
Research and Application of a Full Process Control Platform for Power New Energy Engineering Construction Based on AI and Big Data.....	265
<i>Yixiang Xie, Zhengui Huang, Yuanfei Wei, Baixue Huang, Chengjia Huang, Meiwen Xia</i>	
Design of Smart Home System Based on ZigBee Technology	270
<i>Yinfan Liang, Xiaonan Luo</i>	
Research on YOLOv8-Based Household Item Detection for Indoor Scenes	275
<i>Jingwen Wu, Xiaonan Luo</i>	
A Breast Image Classification Method Based on Attention Feature Fusion.....	280
<i>Lin Ke, Chen Wenying, Qin Zhisong, Wen Xiangfeng, Liang Yun, Zhang Wenjun</i>	
Liver Tumor Image Segmentation Method Based on U-Net Network	286
<i>Dinghong Lu, Xiaonan Luo</i>	

Author Index