2023 International Conference on Intelligent Management and Software Engineering (IMSE 2023)

Rome, Italy 8-10 September 2023



IEEE Catalog Number: ISBN: CFP23UP6-POD 979-8-3503-9418-4

Copyright © 2023 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:	CFP23UP6-POD
ISBN (Print-On-Demand):	979-8-3503-9418-4
ISBN (Online):	979-8-3503-9414-6

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



2023 International Conference on Intelligent Management and Software Engineering (IMSE) IMSE 2023

Table of Contents

reface	. xii
rogram Committee	xiii

Intelligent Data Management and Information Recognition

Blockchain-Based Digital Asset Management Scheme with Ciphertext-Policy Attribute-Based Encryption and Proxy Re-Encryption
Relation Extraction Method Based on Deep Learning for Theft Police Records
 Data Augmentation for Fake News Using ChatGPT
 Text Classification Based on PWACNN and Context-BiLSTM Methods
 AxialRE: Axial Attention for Dialogue Relation Extraction
Recommendation Algorithm for Multi-View Contrastive Learning Based on Knowledge Graph 30 Hongwei Chen (Hubei University of Technology, China) and Ya Pang (Hubei University of Technology, China)

Intelligent Classification Method of Digital Twin Airport Hazard Based on ID3 Algorithm	:
Pre-Training Based Multi-Channel Enterprise Information Sentiment Analysis	
Knowledge Graph Based Mass Customization Recommendation	1
 Optimized LEACH Protocol Based on Data Volumedistance Distribution	
Path Planning of McNum Wheel Robot Based on the Fusion of RRT* and Artificial Potential Field Method	
 Data Resilience Protection for Power Data Center Based on Automatic Identification of Key Data and Incremental Backup	
Application of BP Neural Network Based on the Fastest Gradient Descent Algorithm in Data Fitting	1
Adaptive Spatial Perception Network	
A Review of Quantum Machine Learning for Image Classification	

Emotion Recognition from EEG Signals Based on GoogleNet and Multi-Dimensional Fusion	•
Research on Freshwater Fish Recognition Based on Improved Random Forest	
Research on the Association between Energy Consumption and Carbon Emissions Based on Knowledge Graph	
 A Multi-Scale Dynamic Fusion of Audio-Visual Features with Convolutional Networks for Falking Face Generation	1
 Cross-Modality Person Re-Identification Method Using Cross- Dimensional Interactive Attention Mechanism	
Reflections on Digital Legislative Management of Privacy Under the Background of Cloud Service	1
Entity Interaction Action Recognition Based on Adaptive Joints	:
Fargets Recognition Based on Feature Extraction with Small Convolutional Networks for Ultrasonic NDT Xiaojie Cao (Shanghai University of Engineering Science, China), Rao Yao (Shanghai University of Engineering Science, China), and Peng Yao (Beihua University, China)	ì

Software Architecture Design and System Testing

Design and Implementation of an Instant Messaging System
Image Assessment Method for Aerial Cloud Removal Combined with Manipulation Detection Technology
Chao Xu (PLA Army Academy of Artillery and Air Defense, China), Congli Li (PLA Army Academy of Artillery and Air Defense, China), Zhe Wei (PLA Army Academy of Artillery and Air Defense, China), Yongfeng Liu (PLA Army Academy of Artillery and Air Defense, China), Song Xue (PLA Army Academy of Artillery and Air Defense, China), and Jun Li (PLA Army Academy of Artillery and Air Defense, China)
 Temporal Relational Ranking for Non-Fungible Tokens
Software Design and Algorithm Study of Data Transmission Based on National Standard HJ212-2017
The Design of Cross-Border E-Commerce Smart Internet of Things System Architecture Based on Cloud Computing Technology
Construction of a Blockchain-Based Quality Traceability Platform for Prefabricated Dishes
 Screening and Multiscale Fusion Networks for Video Salient Object Detection

Deep Learning Based Anomaly Detection Method for Wind Turbine Blades Chao Yang (Beijing Jingneng Clean Energy Co., Ltd., China), Jian Zhang (Beijing Jingneng Clean Energy Co., Ltd., China), Wei Dong (Beijing Jingneng Clean Energy Co., Ltd., China), Yongtao Qiu (Beijing Jingneng Clean Energy Co., Ltd., China), and Haorui Liu (Beijing Jingneng Clean Energy Co., Ltd., China)	145
Gated Bivariate Fusion and Shared Graph Neural Networks for Spatio-Temporal Traffic Speed Forecasting Hongwei Chen (Hubei University of Technology, China) and Hui Han (Hubei University of Technology, China)	149
Internet of Things Technology in Motor Sports Rongcong Wang (Physical Education of Jianghan University, China), Fenghua Yang (Physical Education of Jianghan University, China), Hongwu Xia (China Racing Academy of Jianghan University, China), Jianhua Huang (East China University of Science and Technology, China), Chenyang Liu (School of Mines of China University of Mining and Technology, China), and Xi Chen (Physical Education of Jianghan University, China)	153
Research on Low Speed Unmanned Vehicle Simulation Testing Based on Vehicle in the Loop Zhigang Jin (Automotive Data of China (Tianjin) Co., Ltd., China), Qingyu Zhang (Automotive Data of China (Tianjin) Co., Ltd., China), Chuanpeng Li (Automotive Data of China (Tianjin) Co., Ltd., China), Yaofu Wang (Automotive Data of China (Tianjin) Co., Ltd., China), and Zhibin Du (Automotive Data of China (Tianjin) Co., Ltd., China)	157
Tibetan Punctuation is All You Need in Pretrained Language Model Mingjun Zhou (Tibet University, China; Collaborative Innovation Center for Tibet Informatization by MOE and Tibet Autonomous Region, China), Zhuoma Daiqing (Tibet University, China; Collaborative Innovation Center for Tibet Informatization by MOE and Tibet Autonomous Region, China), Nuo Qun (Tibet University, China; Collaborative Innovation Center for Tibet Informatization by MOE and Tibet Autonomous Region, China), Nuo Qun (Tibet University, China; Collaborative Innovation Center for Tibet Informatization by MOE and Tibet Autonomous Region, China), Zhaxi Nima (Tibet University, China), and Tashi Nyima (Tibet University, China; Collaborative Innovation Center for Tibet Informatization by MOE and Tibet Autonomous Region, China)	161
Cyberbullying Detection Based on GECC-BiGRU Xianbin Li (Jiliang University, China), Hangxia Zhou (Jiliang University, China), and Chen Cui (Zhejiang Police College, China)	169
A Study on Network Intrusion Detection System Based on Data Mining Yimei Xu (Xi'an Eurasia University, China), Pengju He (Xi'an Eurasia University, China), and Panlong Sheng (Xi'an Eurasia University, China)	173
Grain Depot Wearable Device Detection Model Based on YOLOv5 Jianjun Wu (Henan University of Technology, China), Yimeng Lian (Henan University of Technology, China), Qing Wen (Henan University of Technology, China), Tong Zhen (Henan University of Technology, China), Yuhua Zhu (Henan University of Technology, China), and Zhihui Li (Henan University of Technology, China)	177

Research on Design and Implementation of a Virtual Real Fusion Metaverse System Based on Deep Learning
 Multi-Scale Automated Self-Supervised Learning for Recommendation
An Urban Intelligent Transportation Model Based on Deep Learning Algorithm
 Design and Implementation of a Manufacturing Environment Monitoring System Based on Android Terminals
Smart Contract Vulnerability Detection Based on TextCNN and Attention Mechanism
Maritime Safety Decision-Making Model Based on Judgment AggregationA Case Study of the Interconnected Pipeline Route Between Zhoushan and Ningbo Petrochemical Base
R&D and Application of Intelligent Investment Management System for Hydropower Projects 222 Chao Yue (POWERCHINA HUADONG Engineering Corporation Limited, China), Wei Liu (POWERCHINA HUADONG Engineering Corporation Limited, China), Zhiyong Fan (HUANENG Tibet YLZB River Hydropower Development Inc, China), and Renjie Pan (POWERCHINA HUADONG Engineering Corporation Limited, China)
A Light Real-Time Laboratory Information Management System

Author Index	
Author Index	