

2023 6th International Conference on Software Engineering and Computer Science (CSECS 2023)

**Chengdu, China
22-24 December 2023**



**IEEE Catalog Number: CFP23UC0-POD
ISBN: 979-8-3503-0638-5**

**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:	CFP23UC0-POD
ISBN (Print-On-Demand):	979-8-3503-0638-5
ISBN (Online):	979-8-3503-0637-8

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

Article 1

Algae Object Detection Algorithm Based on Improved YOLOv5

Ke Lin, Yang Tang, Jianheng Tang, Huiqing Huang, Zhisong Qin

Page:1-5

Article 2

MFYOLO: An Improved YOLOv5 Algorithm for Small Target Detection in UAV-Captured Images

Ziwei Du, Fangwei Sun, Heng Zhou, Chengyang Li, Zhongbo Li, Yongqiang Xie

Page:6-11

Article 3

Supervised Machine Learning Techniques for Power Consumption Usage Level Prediction

Yi-Fei Tan, Ge-Zhi Zhao, Tze-Hang Cheeng, Chee-Pun Ooi, Wooi-Haw Tan, Soon-Nyeon Cheong

Page:12-16

Article 4

DTG-LSTM: A Delaunay Triangulation Graph Network for Human Trajectory Prediction

Zhimiao Shi, Yao Xiao

Page:17-22

Article 5

GCL-GCN: a Graph Contrastive Learning Based Graph Convolutional Network for API Recommendation

Chijie Xie, Rong Hu

Page:23-28

Article 6

Multi-class Failure Prediction for Distributed Systems based on KPI Data and Feature Selection

Zhidan Yuan, Mingliang Zhu, Haizhong Qian, Taizhi Lv, Tao Huang

Page:29-34

Article 7

PBFT Consensus Algorithm Optimization Scheme based on Vague Sets and Credit Rating

Zhaowu Zeng, Bin Wen, Wanrong Du, Feng Zhang, Wei Zhou

Page:35-39

Article 8

Wind Speed Forecasting of High Plateau Airport Based on Informer

Tianhang Zhang, ShanShan Hu, Zheng Xiang, Lijuan Zhang, Yinli Kuang, Yucong He

Page:40-44

Article 9

Fusion of Enhancing Target Features and Focusing Slice Features for Soil Image Classification

Xin Zheng, Jiawei Wang, Xin Bai

Page:45-51

Article 10

PointStack: A Point Cloud Processing Network with Enhanced Global Feature Aggregation

Yongliang Tao, Jintao Wang, Pengchao Li, Mingmin Liu, Zhenjun Du, Yang Liu, Chengpeng Li

Page:52-58

Article 11

Accelerating High-precision Vulnerability Detection in C Programs with Parallel Graph Summarization

Rulin Xu, Xiaoguang Mao, Wei Xiao

Page: 59-64

Article 12

Group Sparse Radiomics Representation Network for Diagnosis of Alzheimer's Disease Using Triple Graph Convolutional Neural Network

Chuanzhen Zhu, Zhiwei Song, Yi Wang, Minbo Jiang, Limei Song, Qiang Zheng

Page:65-70

Article 13

Method for measuring the external dimensions of prefabricated components in complex backgrounds

Zhiliang Yang, Daqing Wang, Chenlei Xie, Lifu Gao

Page:71-76

Article 14

Improving Cybersecurity Named Entity Recognition with Large Language Models

Zhe Qiao, Chen Zhang, Gang Du

Page:77-82

Article 15

TDS: Two Diffusion Streams for Low-Light Image Enhancement

Jieming Wang, Xianqin Liu, Yijun Zhang, Jianfang Hu

Page:83-89

Article 16

Calculation Strategy of Improved Genetic Algorithm Based on Growth Mechanism

Zifan Wei

Page: 90-96

Article 17

Research on product recommendation system of online mall based on graph neural network

Zhao Chenxi, Run-Dan Xie, KUANG Jinfa

Page:97-101

Article 18

Automatic Detection Method for Software Requirements Text with Language Processing Model

Li Zhang, Liubo Ouyang, Jiahao Qin

Page: 102-106

Article 19

Image Preheating: Enables Fast Startup of Large-Scale Parallel Containerized Jobs

Yeting, Gaohongbo, Tangbo, Yangke

Page: 107-114

Article 20

Non-parameter oversampling algorithm based on natural neighbors

Wentong Wang, Lijun Yang, Juntao Yang, Tianshuo Li

Page: 115-120

Article 21

Human Motion Prediction via Adaptive Fusing Autoregressive and Non-Autoregressive Attention Networks

Xuanqi Li, Xianqin Liu, Yijun Zhang, Jianfang Hu

Page: 121-127

Article 22

Calibration method of industrial robot kinematic parameters based on improved SSA algorithm

Jialu Xu, Xiaonan Liu, Pengchao Li, Jintao Wang, Haibing Guo

Page: 128-134

Article 23

Contextualized Word Embeddings via Generative Adversarial Learning of Syntagmatic and Paradigmatic Structure

Chao Wei, Wei Zhao, Liang Chen, Yibo Wang

Page: 135-142

Article 24

Research on the Comprehensive Design Method of Process Engine Based on Primitive BPS

zuyi hao, lihua gao, jingtao shang

Page: 143-147

Article 25

MFTTr_Locator: a novel transformer model decoding multi-label protein subcellular locations in multi-field immunohistochemistry image

Ziqian Wang, Kai Zou, Sihui Zhu, Peiqi Cai, Fan Yang

Page: 148-153

Article 26

CrackNet: A Backbone Network for Pavement Crack Analysis

Xinpeng Wen, Zhangli Lan, Jiqiang Zhu, Songbai Cai, Qingqing Yang, Shengwei Zhao

Page: 154-160

Article 27

DASENet: A Detail Aware U-Net with Shuffle Excitation for Retinal Vessel Segmentation

Jiqiang Zhu, Zhangli Lan, Xinpeng Wen, Songbai Cai, Yuantong Xu

Page: 161-167

Article 28

Top-View Person Re-Identification

Xuanchen Huang, Xiaohua Xie

Page: 168-173

Article 29

Hybrid Feature Extraction Based Deep Learning Model for Offline Signature Verification

Tong Xiong, Xin Zhang

Page: 174-179

Article 30

Enhanced Multi-Modal Knowledge Graphs Representation Learning via Self-Attention Fusion

Tian Jiahong, Zhang Yongchuan, He Yong

Page: 180-185

Article 31

Digital Twin Applications in Unmanned Surface Vehicles: A Survey

Zitian Peng, Yong Yue, Xiaohui Zhu, Mengjie Huang, Prudence Wong, Shanliang Yao, Zhuoxiao Li, Dongkun Hou

Page: 186-193

Article 32

A Basic Iterative Non-sign Average Gradient Adversarial Attack on Brain Tumor Image

Jiaxuan Wei, Jiawei Tang, Shifa Liu, Weilong Chen

Page: 194-199

Article 33

A GNN-based Mission Planning Approach Coupled with Environment for Multiple Unmanned Ground Vehicles

Junbao Xu, ZhenYu He

Page: 200-205

Article 34

Improving Visual Speech Recognition for Small-scale Datasets via Speaker Embedding

Jinghan Wu, Yakun Zhang, Xingyu Zhang, Changyan Zheng, Ye Yan, Erwei Yin

Page: 206-211

Article 35

Application of Sparse Attention Mechanism and Bidirectional GRU Neural Networks in Knowledge Tracing

Junjie Wu, Guozhong Wang, Yan Wang

Page: 212-217

Article 36

Implementation of Parallel I/O for Multi-Partition Structured Grids CFD Program Based on HDF5

Tao He, Xiaohang Liu, Chunye Gong

Page: 218-223

Article 37

Modal-based Feature Relation Fusion for Visible-Infrared Pedestrian Re-identification

Shuo Wang, Chen Xue, Enwen Hu, Zhongliang Deng

Page: 224-232

Article 38

SEMI-DISAMBIGUATED PARTIAL LABEL LEARNING BY MIXING DISAMBIGUATION AND NON-DISAMBIGUATION STRATEGIES

Guangkui Lei, Jing Chai

Page: 233-238

Article 39

Text Prompt Translation for Zero Shot Prediction under Lexical Constraint in Aviation Domain

Fan Chen, Yongming Fang, Xuedong Man, Yunbo Zhao, Tianzhu Fang, Luxin Lin, Meiyun Tan, Siying Huang

Page: 239-246

Article 40

Cryptographic Reverse Firewall for Digital Signature in Fog Computing

Burong Kang, Huanhuan Lian, Xuhua Zhou, Wenjun Zhou

Page: 247-253

Article 41

Location selection of Fujian emergency material reserve center based on complex network

Liao Gui, Chen Hongyan, Huang Yingyi

Page: 254-258

Article 42

An Adaptive Spectral Clustering Algorithm for High-Dimensional Data

LI Qing, REN Ruibin, ZHAO Lianwen

Page: 259-264

Article 43

WaveRFN-Nest: A Multi-scale Feature Fusion Method Based on Wavelet Transform and Deep Learning

Chuan Kou, Yunxiao Zu

Page: 265-269

Article 44

GNN and Encoder integrated model for distributed solar and wind power forecasting

Qiuyu Wu, Yu Wang, Jie Cao, Jin Huang, Weiwei Miao

Page: 270-278

Article 45

A Decision Support System for Type Determination and Catalog Inclusion of Police Equipment Based on System State Characteristics

Lingling Hu

Page: 279-283

Article 46

Context-Aware API Recommendation for Mashup Composition based on Path Ranking

Beichen Hu, Xihao Xie, Junhao Shen

Page: 284-290

Article 47

Weak-shot Semantic Segmentation Based on Encoder-Decoder Structure

Yi Zhang, Yingxue Wang, Yiwei Wei, Biyi Feng, Xiaocheng Hu, Dayu Guo, Bochao Zou

Page: 291-296

Article 48

A Neural Network Based on Local Difference Analysis for Image Steganalysis

Ming Han, Ruiyao Yang, Yu Yang, Gang Wang

Page: 297-306

Article 49

Vehicle and Pedestrian Fast Detection based on YOLO-FPN

Juan Du, Cunqian Feng, Wenxiong Cheng, Wei Tan, Jia Li, Qian Cheng, Xiuyi Zhang

Page: 307-313

Article 50

A P-value Glyph Matrix Visualisation for Multi-target Biochip Biosensor Selection

Paul Craig, Ruben Ng, Boris Tefsen, Sam Linsen

Page: 314-322

Article 51

Dynamic Modeling and Strategic Prioritization of Sustainable Development Goals

Yixin Gao, Fanding Huang, Xinhua Wang, Zheyong Qiu

Page: 323-328

Article 52

Multitask Information Sharing Based Action Recognition In 3D Hand-Object Interaction

Muhammad Altaf, Xiangbo Lin

Page: 329-334

Article 53

Evaluation and Classification of Kidney Stone Detection Using Deep Learning Techniques

Muhammad Nadeem, Guozhen Tan, Muhammad Altaf, Muhammad Khalid Mumtaz, Aiman Fatima, Noshi

Page: 335-340

Article 54

KCPE-SMDI:Key Contour Points Extraction Method based on Stroke Multi-dimensional Information for Chinese Character Vectorization

Xudong Li, Caiyun Zhao

Page: 341-349

Article 55

An Automatic Threshold Adjustment Algorithm for Thermal Fault Extraction

Weixuan Diao, Yingnan Geng

Page: 350-354

Article 56

Computing and Tracing Particle on Surface of Overlapping AMR

Hao Yang, Fang Xia, Dehong Tang

Page: 355-364

Article 57

Attention-based CNN for CT-Kidney Classification

Jiamu Hu, Yichen Guo, Letao Li, Teoh Teik Toe

Page: 365-371

Article 58

RGB-Image-Based Forklift Pallet Recognition and Localization

Shengqiang Lv, Shiman Wang, Jianxin Liu

Page: 372-376

Article 59

A Precomputed Atmosphere Differentiable Renderer for Estimating Outdoor Illumination

Yunchi Cen, Xianglong Yan, Song Jin, Xiaohui Liang

Page: 377-384

Article 60

MAFF: A Novel MobileNetV3 Attention Feature Fusion Network for Automatic Vehicle Classification

Muhammad Khalid Mumtaz, Bingcai Chen, Muhammad Usman Saeed, Muhammad Nadeem, Muhammad Altaf

Page: 385-391

Article 61

An image inpainting model for grayvalue images based on Coherence Enhancing TV-H-1 equation

Rajrup Banerjee, Rohit Kamal Chatterjee, Avijit Kar

Page: 392-398

Article 62

Semantic-guided Voting with Segmentation for Visual Localization

Chao Wang, Dong Xie, Qingjun Cao, Rui Guo, Feng Zhu

Page: 399-404

Article 63

A Temporal Difference Pyramid Network for Action Recognition

Linfu Liu, Lin Qi, Yun Tie, Chengwu Liang

Page: 405-410

Article 64

Small target detection algorithm based on two-stage feature extraction

Wei Li, Zhilong Zhang, Chuwei Li, Jiangwei Zou

Page: 411-415

Article 65

Computer Vision-based Personnel Management in Complex Scenarios of Industrial Enterprises

Yongqi Chen, Boying Li, Yanqi Liu, Weining Shi, Haoyu Yang, Yang Jiang, Yongxuan Lai

Page: 416-421

Article 66

Implementation and Optimization of a Data-Driven Soft Sensor in a Welding Process

Fabian Hensler, Alexander Jesser, Nico Strebe

Page: 422-429

Article 67

Multi-view Subspace Clustering with Low-rank Kernel and High-order Similarity Learning

Yueyao Li, Bin Wu, Yanying Mei, Jiao Wang

Page: 430-435

Article 68

Uyghur Language Off-line Signature Verification Based On The Modified Directional Features

Zulpiya Ghenni, Kurban Ubul, Dongping Tian

Page: 436-442

Article 69

Interval-valued Z-number Aggregation Operators and Its Application in Airbus Type Selection Problem

Wenbin Deng, Wenjie Zheng, Li Yan, Zheng Pei

Page: 443-450

Article 70

Data Augmentation Based Inception V3 for Pneumonia Image Classification

Chenhao Tang, Tongjing Zhang, Teoh Teik Toe

Page: 451-455

Article 71

Geometric-Aware Facial Landmark Emotion Recognition

Qixuan Zhang, Zhifeng Wang, Yang Liu, Zhenyue Qin, Kaihao Zhang, Tom Gedeon

Page: 456-461