

2025 IEEE 23rd International Conference on Industrial Informatics (INDIN 2025)

Kunming, China

12-15 July 2025

Pages 1–758

IEEE Catalog Number:
ISBN:

CFP25INI-POD
979-8-3315-1122-7



Copyright © 2025, IEEE

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:	CFP25INI-POD
ISBN (Print-On-Demand):	979-8-3315-1122-7
ISBN (Online):	979-8-3315-1121-0
ISSN:	1935-4576

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

TABLE OF CONTENTS

Hydrological Information Extraction from Historical Maps Using SAM large model and Mathematical Morphology	1
<i>Shen Yang, Ke Yuanying, Li Tiankun, Huang Feng, Liu Weihui, Zhang Xingyi, Zhong Zhenhua, Zhao Fei</i>	
Sequential Experimental Design for Complex Industrial Systems: An Efficient Proximal Policy Optimization Approach	10
<i>Yuchen Wang, Baoqing Yang, Jie Ma, Qing Shu</i>	
Adaptive Algorithmic Determination for Energy-Efficient UAV Swarm Pathfinding in a Smart Agriculture Context	16
<i>Ahmed Amine Tabbassi, Christopher Beck, Kristian Rother, Stefan Henkler</i>	
Mining Associations of Electricity-Carbon Emission Influencing Factors By Knowledge Graph	26
<i>Zhaorui Yin, Xinhui Li, Jiahui Wang, Kun Yue, Zhiwei Qi, Shenzhang Li</i>	
GNSS Spoofing Mitigation for Resilient Train Positioning using Sparse Factor Graph Optimization	32
<i>Si-Qi Wang, Jiang Liu, Bai-Gen Cai, De-Biao Lu, Wei Jiang, Xiao-Hui Ba</i>	
Identification of an Approach for the Execution of Skill-Based Domain-Specific Languages in the Area of Human-Robot Collaboration	38
<i>Lukas Buchner, Philipp Zallinger, Karin Nachbagauer, Alois Zoitl, Roman Froschauer</i>	
Anomaly Detection of Marine Engines using Graph Network AutoEncoder with Multi-scale Feature Fusion	44
<i>Tong Ge, Siheng Zhao, Shifei Ma, Ruonan Liu</i>	
An Artificial Mating and Ovipositing Facility for Black Soldier Flies	49
<i>Cheng Pang, Yunjiang Lou, Lei Shu, Guangzhong Dong, Dongjun Zhang, Jinfa Zou, Chen-Wei Yang, Valeriy Vyatkin</i>	
Cost-Effective Topology Design for Network Planning in Industrial Time-Sensitive Networking	55
<i>Yuchao Chen, Yingxiu Chen, Yue Tang, Xin Li, Lei Xu, Shihui Duan, Qimin Xu, Cailian Chen</i>	
Time-Frequency Dual Branch Hybrid Network for Solar Irradiance Forecasting in PV Power Systems	61
<i>Tianyu Cang, Xuan Jiao, Weidong Xiao, Xiaochao Li</i>	
3SRank: An Effective Method for Measuring Semantic Similarity Strength	66
<i>Aoxiang Gao, Lianyin Jia, Mengjuan Li, Runxin Li, Haihe Zhou, Xinming Xing</i>	
Detecting GNSS Deception Interference for Train Localization using CTGAN-TabTransformer	72
<i>Xin-xing Liu, Jiang Liu, Bai-gen Cai, De-biao Lu, Wei Jiang</i>	
A Lightweight Monitoring Robot for Crassulaceae Succulent Cultivation Based on Edge-Cloud Fusion Architecture	78
<i>Di Zhou, Taoyuan Li, Lei Zhang, Haimin Deng, Cheng Xie</i>	
A Two-Stage Multi-Source Transfer Learning Approach for Software Defect Prediction	86
<i>Hao Li, Shuo Wang</i>	
YOLO-based in-situ Defect Monitoring System for Additive Manufacturing	92
<i>Deepika Nikam, Maxime Hudon, Sonya Coleman, Dermot Kerr, Neelesh Kumar Jain, Sagar Nikam</i>	

SE-Enhanced YOLOv9 for Accurate Brain Tumor Segmentation	99
<i>Yixun Wang, Beibei Xu</i>	
Design and Implementation of a Sleep Respiratory Continuous wearable Monitor Based on ECG Cardiopulmonary Coupling and Cloud-Edge Collaboration	105
<i>Yi Cheng, Shenlong Wan, Jia Luo, Chunlin Zhu, Cheng Xie</i>	
SAID: Unsupervised Graph Anomaly Detection with Structural Affinity-based Isolation	114
<i>Guizhuo Liu, Xiong Zhang, Changlong Fu, Cheng Xie</i>	
Seafood Detection Algorithm Based on DCGAN Network and MDRFF Resnet50 with FPN Faster R-CNN Network	122
<i>Yuting Wang, Qingqing Hong, Zhen Li, Hui Yang, Haonan Tang, Yuliang Gao, Zijun Yang, Lifeng Zhang</i>	
Adaptive Event-Triggered and Self-Triggered Control for a Discrete-Time Saturated Polytopic LPV Systems	128
<i>Dinsha Vinod, Jing Zhou</i>	
A Co-estimation Algorithm Based on Adaptive Residual Generator for Multi-sinusoidal Signals	134
<i>Xiaoyi Xu, Xianling Li, Zhiwu Ke, Hao Luo, Mingyi Huo, Yuchen Jiang</i>	
CargoFlow: A Comprehensive System for Congestion Detection and Root Cause Analysis in Cargo Handling	138
<i>Elton Chun-Chai Li, Ruiyuan Zhang, Yichen Ren, Xiaofang Zhou, Sean Shing Fung Lau Morgan Xian Biao Hiew, Yan Nei Law</i>	
Research on obstacle avoidance path planning of agricultural intelligent vehicle based on improved artificial potential field method	144
<i>Feiyang Tan, Faan Wang, Zhaoguo Zhang, Yanyi Feng, Jinhao Liang, Shifei Jiang</i>	
Lightweight Multi-Scale Crop Classification Network with Dense Dilated Convolutions	149
<i>TianYu Ren, QingQing Hong, Wei Liu, Yue Zhu</i>	
Self-Training Collaborative Sample Pruning Method for Hot-Rolled Strip Crown Imbalance Diagnosis	156
<i>Yehui Qin, Chengyan Ding, Jie Sun, Wen Peng, Xudong Li, Xingfang Zhao, Jifei Deng, Valeriy Vyatkin</i>	
Human Centered Industry 5.0 Data Representation in the context of Technology Driven Digital Transformation Interfacing	163
<i>Adrian Korodi, Vlad-Cristian Vesa, Raul-Andrei Dontu</i>	
Conformity Assessment of Machine Learning-Based Quality Assurance: A Gap Analysis	169
<i>Felix Fuchs, Martin Biller, Marco F. Huber</i>	
Inertial Parameters Identification for Floating-Base Multibody Systems Using Spinning Trajectories	177
<i>Hongwu Zhu, Yongyuan Xu, Ziyi Zhou, Yuan Gao, Ning Ding</i>	
Lithium-ion Battery Health Estimation Using Electric Vehicle Field Data	184
<i>Luteng Zhong, Zicheng Fei</i>	
Adaptive Multi-Scale Graph Attention and Laplacian Transform for Industrial Network Anomaly Detection	190
<i>Zilong Guo, Wenjun Huang, Yintao Chen, Dian Wang, Chen Gong, Na Ma</i>	
LSTM-Attention with Multi-Sensor Fusion for High-Accuracy 3D Indoor Localization on Smartphones	196
<i>Zhanpeng Zhang, Jiale Wang, Ming Xia, Deyou Zhang, Shengmao Que, Chuang Shi</i>	

Artificial intelligence technology based on CISDigital assists the digital-intelligent transformation and upgrading of the iron and steel industry	201
<i>Xiaodong Sun, Ke Zhou, Bing Tang, Haixi He, Jie Zhu, Zhaohui Jiang</i>	
A fusion method based on vibration and abrasive life prediction and Its Application on gear degradation problem	206
<i>Fengjie Ren, Kangbo Fan, Yizhen Peng</i>	
Low Jitter Framework for the Converged Networks of CAN-FD and TSN	212
<i>Fucheng Li, Chunxi Li, Zonghui Li, Zhibo Pang</i>	
3D CNN Lung Cancer Classification with Dual feature fusion	220
<i>Wariyo Godana Arero, Yaqin Zhao, Longwen Wu, Worku Jifara Sori</i>	
Data Synchronization and Redundancy Mechanism for Virtual PLCs in Industrial Control Systems	226
<i>Zixuan Tang, Dong Li, Bo Hu, Yu Liu, Dapeng Lan, Peng Bo, Zhibo Pang</i>	
AI-based Animal Video Understanding for Smart Livestock Farming	233
<i>Yangyang Guo, Shilei Wei, Zhenhao Li, Yongliang Qiao</i>	
Time-Frequency Feature Fusion and Graph Convolutional Adversarial Network for Cross-Domain Fault Diagnosis	239
<i>Haorui Hu, Huaiping Jin, Sicong Liu, Hao Fang</i>	
Multi-Scale Hierarchical Interaction Transformer for Wind Power Forecasting	246
<i>Yuanyuan Gu, Bin Wang, Huaiping Jin, Hao Fang</i>	
Graph Feature Learning-Based Virtual Sample Generation and Sample-weighted Soft Sensor Method	253
<i>Zhiheng Jiang, Bin Wang, Wangyang Yu, Huaiping Jin</i>	
A Cross Working Conditions Fault Diagnosis Method Based on Dual-Weighted Adversarial Multi-source Domain Adaptation	260
<i>Yinxuan Liu, Hao Fang, Wangyang Yu, Huaiping Jin</i>	
Deep Embedded Clustering Based on Stacked Autoencoder with Jointly Improved Loss for Daily Coal Mine Load	267
<i>Junyu Luo, Huaiping Jin, Haining Wang, Shuangliang Tian, Nanjun Li</i>	
PGDEC-MIL: Prototype-Guided Deep Embedding Clustering for Ovarian Cancer Subtype Classification	273
<i>Youfu Zheng, Haibo Tao, Bin Wang, Jiashuo Shi, Huaiping Jin</i>	
FD-MLLM: Fault Diagnosis Framework Based on Multimodal Data and Large Language Model	281
<i>Dayang Li, Zhibo Pang, Kun Yang, Yichen Luo, Yanghang Zeng</i>	
A Deep Learning-Based Predictive Anomaly Detection method for Coal Mine Production Safety	288
<i>Pengwu Liu, Yufu Hao, Huaiping Jin, Haining Wang, Shuangliang Tian, Hao Fang</i>	
Large Language Models Enhanced Manufacturing Process Knowledge Graph Question Answering	294
<i>Zexu Zhao, Wan Zhang, Ke Shi</i>	
A Practical TDOA-Based Method for UWB Anchor Localization	300
<i>Xinchi Zhang, Jiale Wang, Ming Xia, Ziwei Yue, Deyou Zhang, Chuang Shi</i>	

DiffOGMP: Diffusion Model for Stochastic Occupancy Grid Map Prediction in Dynamic Scenes	305
<i>Yunfei Lei, Jiarui Zhao, Shengdi Sun, Chenyang Du, Xirui Wu, Jian Wang</i>	
An EfficientNetV2 Deep Learning Framework for Adolescent Bone-age Prediction Using Hand Radiographs	313
<i>TakMan LO, Lixin Deng, Yizhu Tang, Kaip Tse, Jiatao Wu, Yuzhi Huang, Zhihao Li, Renzhi Lu</i>	
Step Length Estimation Method Based on Residual Neural Network for Pedestrian Dead Reckoning with Shoulder-Mounted IMU	319
<i>Ziwei Yue, Ming Xia, Jiale Wang, Deyou Zhang, Zhuoyuan She, Chuang Shi</i>	
Assessment of Growth Status in Structured Orchards Using 3D LiDAR SLAM and Optimized Point Cloud Processing	325
<i>Guangjie Liu, Haocheng Lu, Kai Huang, Xiaolan Lv, Yuanhao Sun, Xue Li</i>	
Integrated Health Monitoring and Pedestrian Navigation: A Hybrid Foot-Worn and Wrist-Worn Multi-Sensor System for Seamless 3D Localization and Vital Sign Tracking	331
<i>Jiale Wang, Yuxin Xie, Nanzhu Liu, Ming Xia, Deyou Zhang, Chuang Shi</i>	
Hierarchical-Controlled Robot Visual Navigation System Using Line Segment-based Perspective Mapping	337
<i>Yifei Zhang, Kang Liu, Yefeng Yang, Wenyu Yang, Shiyuan Wang, Chih-Yung Wen</i>	
Update Mechanism and Consistency Control and Management Methods for Complex System Digital Twin Models	343
<i>Lei Dong, Rui Feng Guo, Zhao Zhigang</i>	
Bone Age Prediction using a Convolutional Neural Network-based Regression Algorithm employing Attention-Directing and Cluster	351
<i>Tao Ma, Tinghong Ye, Lixin Deng, Yizhu Tang, TakMan LO, Kaip Tse, Jiatao Wu, Yuzhi Huang, Zhihao Li, Renzhi Lu</i>	
Investigation into the Coexistence of AI and Digital Media Workforce	357
<i>Ruixuan Chen, Haiyang Zhang, Zhijie Xu, Zihan Deng, Yunchu Peng, Yihong Wang</i>	
TransSegNet: A Novel Method for Intravascular Ultrasound Image Segmentation	363
<i>Min Liu, Hairong Yan, Jing Xue, Hongjiang Wang, Yunlong Gao</i>	
The Impact of Artificial Intelligence Involvement in Video Creation	369
<i>Haoran Qin, Yushan Pan, Xinda Li, Zemeng Gu, Sanjeev Thaiyal, Yihong Wang</i>	
Message and Task Co-Scheduling with End-to-End Deadlines in Industrial Internet of Things	375
<i>Menghua Chen, Hui Li, Jiping Zheng, Shanying Zhu</i>	
A Coarse-Fine Meta-learning Framework for Industrial Quality Prediction Under Multiple Operating Conditions	381
<i>Kesheng Zhang, Xiang Li, Ting Feng, Jinliang Ding, Shen Yin</i>	
Vision-Based Customized Area Personnel Detection for Tea Plantation Management	387
<i>Ru Han, Lei Shu, Suhua Wang, Siyang Zang, Hui-Hsin Chin, Der-Jiunn Deng</i>	
Performance Analysis of BDS Single-Epoch Triple-Frequency Vehicle-Borne RTK under Complex Urban Scenarios	393
<i>Tuan Li, Xiangdong Chen, Yuhao Xiao, Zhigang Wang, Ning Fu, Jun Ma</i>	

GNSS NLOS Identification using Sky-view Images and Machine Learning to Enhance Localization Performance in GNSS-challenged Environments	399
<i>Siyi Wang, Tuan Li, Yuhao Xiao, Zhigang Wang, Ning Fu, Haitao Nie</i>	
MS-HA-DETR: A Multi-Scale and Hybrid-Attention Model for Enhancing Pig Abnormal Behavior Detection in Dense Farming	405
<i>Yusen Guo, Yan Wang, Xiaobo Wang, Bo Peng, Xinyan Ran, Rui Mao</i>	
Research Progress of Artificial Intelligence Technology in Livestock Pose Estimation	411
<i>Cong Han, Shilei Wei, Yangyang Guo, Xiaoping Huang</i>	
A Domain Feature Progressive Fusion Network for Fault Diagnosis of Rotating Machinery under Noisy and Limited Sample Conditions	417
<i>Yinsheng Chen, Zedong Ju, Yukang Qiang</i>	
Knowledge Distillation-CNN-BiLSTM Based Lifelong Learning Model for Fault Diagnosis of Power Converters under Multi-conditions	423
<i>Tao Li, Enyu Wang, Chenxi Li, Guoyou Liu, Rongjun Ding, Jun Yang</i>	
Stock return forecast and empirical asset pricing based on random forest	429
<i>Qidong Liu, Yihong Wang, Yangbin Chen, Hailing Li, Yifan Hong, Chengtao Ji</i>	
Enhancing Ship Target Detection: MPN-YOLO Integrating Spatial and Frequency Domain Information	435
<i>Shuo Shao, Xiaofei Yang, Wei Liu, Xu Wang, Mengmeng Lou, Yuanguang Lin</i>	
A Graph Attention Enhanced Multi-Scale Transfer Learning Method for Few-Shot Sales Prediction in Supply Chain	441
<i>Jiajie Wu, Jin Cui, Jing Zhang, Mei Yuan</i>	
A Soft Fin-Ray Gripper with Force-Position Hybrid PID Control	447
<i>Zijian Mei, Runchen Jiang, Yuang Lu, Lei Yu, Yuqing Chen</i>	
Performance Comparison between Centralized and Distributed Cooperative Positioning Using Hybrid GNSS and UWB-Ranging Signals	453
<i>Shijin Qiu, Chenlong Deng, Yufang Xie, Qi Zhang, Jie Ma, Weiming Tang</i>	
Breaking the Vision: Assessing and Mitigating the Impact of Video Artifacts on ML Models in Industrial Use Cases	459
<i>Marco Reisacher, Ann-Kristin Bergmann, Andreas Blenk, Stefan Schmid</i>	
Over-the-Air Computation via Reconfigurable Intelligent Surface with Phase-Dependent Amplitude Response	466
<i>Deyou Zhang, Zhijie Zheng, Wanxi Zhang, Ming Xia, Chuang Shi</i>	
Predicting Water Network Hydraulics: A Multi-Technique Exploration of Knowledge Transfer and Physics-Informed Machine Learning	471
<i>Tiago C. Pereira, Ramon Vilanova Arbos, António Andrade-Campos</i>	
Vision-Based Leader-Follower Formation Control with Distance-Angle Feedback Regulation	479
<i>Zhou Sunyao, Zou Zhuo, Li Yonghao, Li Dongze, Lv Muzhen, Liu Lizheng</i>	
MAMOHN: A Multi-agent Deep Reinforcement Learning framework based on Mixture-of-Head Attention Network for Flexible Job Shop Scheduling	485
<i>Tong Huang, Zi-Qi Zhang, Bin Qian, Rong Hu</i>	

Efficient Semi-Supervised Germination Detection in Three Grain Crops	493
<i>Chengcheng Chen, Di Luo, Tiantian Pang, Ronghao Fu, Xianchang Wang, Hongkun Qiu, Jiehong Wu Helong Yu</i>	
A Multiple-instance Learning Framework under Multi-sensor Data for Mechanical Fault Diagnosis*	499
<i>Yue Yu, Chengzhu Cui, Yonghui Xu, Qian Zhao, Youqian He</i>	
Model-as-a-Middleware: Information Model as an Integrator for Cyber-Physical Production Systems	503
<i>Mainak Majumder, Alois Zoitl</i>	
Robust Diffusion for Real-time Motion Generation: A Case Study on Pick-and-place of Seat Control Units via Augmented Diffusion Policy	509
<i>Xukai Li, Tianmei Jin, Jiayi Zhang, Fengjia Yao, Daniel Vera, Bilal Ahmad, Robert Harrison</i>	
A Self-Tuning Kalman Filter Estimator for Online System Identification of H-bridge Inverter Systems	515
<i>Yuan Huang, Matthew Armstrong, Shafiq Odhano, Zhenlin Wang, Zepeng Liu</i>	
Industrial Large-language-model Based Standard-Enhanced Digital Twin System	524
<i>Xuehan Bai, Cailian Chen</i>	
A Review of Computer Vision-based Hyperspectral Seed Quality Detection	530
<i>Chengcheng Chen, Liya Yao, Tiantian Pang, XianChang Wang, HeLong Yu, Jiehong Wu, Zhaokui Li</i>	
UWB-based Physical Layer Key Sharing for BAN Devices	536
<i>Dutliff Boshoff, Morgana Mo Zhou, Raphael Nkrow, Bruno Silva, Gerhard P. Hancke</i>	
Deploying a 5G MEC-Enabled Farm Using Hybrid Simplified Harmony Search Algorithm	543
<i>Shi-Yu Zhang, Han-Yin Chang, Zhen-Yin Annie Chen, Chun-Cheng Lin</i>	
Enhancing SCADA Deployment with Kubernetes: Scalability, Reliability, and Security Evaluation	549
<i>Yuxing Yang, Yan Li, Peng Bo, Yu Liu, Dapeng Lan, Zhibo Pang</i>	
Performance Analysis of Cloud-Native Databases in Kubernetes for Industrial Cyber-Physical Systems	555
<i>Jiajun Li, Yan Li, Peng Bo, Yu Liu, Dapeng Lan, Zhibo Pang</i>	
Performance Benchmarking of OpenPLC Across Multiple Environments for Cloud-Based Industrial Automation	561
<i>Junhao Deng, Yan Li, Peng Bo, Yu Liu, Dapeng Lan, Zhibo Pang</i>	
QoS-Guaranteed Joint User Clustering, Beam Selection, and Power Allocation for 5G mmWave MIMO-NOMA Transmission in Industrial Scenarios	567
<i>Xiaobing Zhong, Rui Li, Hongyun Zheng, Zonghui Li</i>	
RH-GNN: Regional Heterogeneity Enabled GNN for Agricultural Fertilization Prediction	573
<i>Jiaqi Qian, Yu Zhang, Gaoshan Bi, Jun Qi, Yun Yang, Po Yang</i>	
DRM-CQF: Enhanced Deterministic Transmission between Profinet and TSN	579
<i>Jian Wang, Chunxi Li, Zonghui Li, Zhibo Pang</i>	
Monitoring and Management of Heterogeneous TSN Networks for Industry 4.0: A Survey	587
<i>Seyedali Hadian, Manuel Schappacher, Dominik Welte, Axel Sikora</i>	
TwinFlow: Empowering industrial material flow with data-sovereignty through digital twins	593
<i>Chao Yang, Xinyi Tu, Riku Ala-Laurinaho, Joel Mattila, Jari Juhanko, Kari Tammi, Stefan Vogt Paul Patolla, Dirk Reichelt</i>	

Causal Factorization Graph Network for Interpretable and Scalable Fault Diagnosis of Multiple Wind Turbines	601
<i>Hao Tang, Guoqian Jiang, Qun He, Ping Xie</i>	
Adversarial Spectral Transfer: Cycle-Consistent Learning for standard-free NIR Data Conversion	607
<i>Xinyao Lu, Di Wang, Guohao Zong, Chaoting Li, Weihua Feng, Sanying Feng, Le Zhao, Lei Shu</i>	
Complexity-Aware Distribution Optimization for Computing-intensive Distributed Automation Systems with IEC 61499	613
<i>Tuojian Lyu, Udayanto Dwi Atmojo, Valeriy Vyatkin</i>	
IDM-TD3: An Improved Reinforcement Learning Algorithm Based on Inverse Dynamic Model	619
<i>Yichen Luo, Dayang Li, Yanghang Zeng, Xiaohui Zhu, Zhibo Pang</i>	
A Dual-Exponential EKF Framework with Bayesian Optimization for Lithium-Ion Battery Remaining Useful Life Prediction	625
<i>Ning Yuan, Runze Mao, Peihua Han, Weiqian Xu, YuanJiang Li, Houxiang Zhang</i>	
An Interpretable Fourier Kolmogorov-Arnold Network for State-of-Health Estimation of Lithium-ion Batteries with Partial Charging Data	631
<i>Jiang He, Tianfu Li, Junfan Chen, Tao Liu</i>	
A Hybrid Simulation Framework for User-Side Energy Storage Systems Based on Multi-Method Integration	637
<i>Tongshuai Zhang, Zhuoyao Wu, Yuyi Ren, Liang Gao, Jing Wang</i>	
Integrating Large Language Models with Computer Vision for Automated Pest Management in Precision Agriculture	643
<i>Yuzhu Zheng, Zhipeng Yuan, Jun Qi, Po Yang</i>	
A Residual Weighting Approach for NLOS Mitigation in Complex Environments	649
<i>Raphael E. Nkrow, Dutliff Boshoff, Bruno J. Silva, Gerhard P. Hancke</i>	
Segmentation-Aided Detection and Classification of Broken Rice Using Mask R-CNN	655
<i>Mengya Hu, Lifeng Zhang</i>	
Latency-Guaranteed Adaptive Bitrate Scheme for Industrial Video Analytics Applications	661
<i>Yifan Gu, Lehongfei Li, Jianhua Li, Zhi Quan</i>	
Research on Bearing Fault Diagnosis Based on IWOA-CNNLSTM	667
<i>Chaoqun Zheng, Di Wang, Weihua Feng, Yongsheng Wang, Guohao Zong, Chenhao Cui</i>	
RTLUD-DETR: A High-precision and Lightweight DETR for UAV Detection	673
<i>Zhanpeng Feng, Jiaming Liu, Yifei Wu</i>	
Measured Noiseless of Analog to Digital Converter with Gyro MEMS for Robotic Sensing	681
<i>Wen-Cheng Lai, Cheng-Kai Peng, Yu-Xiang Xu, Hsi-Jen Liu</i>	
Robotic First Aid: Motivation, State of The Art and Challenges	685
<i>Yanghang Zeng, Yichen Luo, Dayang Li, Zhibo Pang</i>	
EKF-Driven Estimation of Feedwater Flow Rate and Valve Differential Pressure in Nuclear Power Systems	691
<i>Hongrui Wang, Pengbin Zhang, Yue Sun, Jingyang Wang, Mingzhe Yuan</i>	

WavI2I: Wavelet-Driven Inertial Imaging for Robust Industrial Human Activity Recognition	697
<i>Ming Xia, Deyou Zhang, Zhuoyuan She, Jiale Wang, Chuang Shi</i>	
Dual-Path Contrastive Learning For Wind Turbine Icing Detection	702
<i>Aili Xu, Jiamei Zhou, Xu Cheng, Fan Shi, Yongming Han, Guoqian Jiang</i>	
A Local-Global Multi-Scale Feature Fusion Learning Network for Whole Slide Images Segmentation	708
<i>Jiajun Sun, Haihao Fei, Zheyu Zhu, Yan Sun, Wei He, Hongming Cai</i>	
MiTpose: Multi-Granularity Guided Vision Transformer for Human Pose Estimation	714
<i>Yunfeng Wu, Qizhong Gao, Yize Liu, Jun Sun, Zhuozhi Li, Yuhao Jin, Yong Yue, Xiaohui Zhu</i>	
CBF-Based Safe Spacecraft Proximity Control With Collision and Occlusion Avoidance	722
<i>Haoran Li, Xiaodong Shao, Yueyang Liu, Bin Chen, Qinglei Hu</i>	
A Distributed Policy Gradient Method for Multiagent Control with Uncertain Cost Functions	728
<i>Jing Wang, Vijay Devabhaktuni</i>	
All-in-One Image Restoration via Frequency Domain Decomposition	734
<i>Wei Wang, Ruizhao Dong, Hongliang Wang</i>	
Sensor Network Resource Management for Target Tracking under Decentralized Architecture	741
<i>Lingjiao Fu, Yifang Shi, Dongliang Peng, Jee Woong Choi, Taek Lyul Song</i>	
Schedulability-Driven Topology Optimization for EtherCAT-TSN Networks in Industrial Automation	747
<i>Yi Duan, Hongyun Zheng, Zonghui Li, Yongxiang Zhao, Zhibo Pang</i>	
Multi Focus Image Fusion Network Based On Focus Attention And Dual Feature Adaptation	753
<i>Fuqin Deng, ZhengHong He, Lanhui Fu, Qingshan Xia, Zhi Xu, Nannan Li, ZhenBo Ren, Ping Su</i>	
Augmented Reality-Enabled Interaction of Intrinsic Global Physical Information for Aircraft Assembly	759
<i>Xu Wang, Yulin Jin, Jiacheng Cui, Qihang Chen, Yongkang Lu, Yang Zhang</i>	
Segment Anything in Industrial defect detection	765
<i>Fuqin Deng, Zhi Xu, Lanhui Fu, Min Zhao, Nannan Li, Song Lu, Hufei Zhu, Qingshan Xia</i>	
GTNet: A Graph-Based Transformer with Cross-Modal Attention Mechanism	771
<i>Qi Yao, Hongyan Yang, Huisheng Ma</i>	
Multi-Metric Fusion-Based Ensemble Clustering for Time Series via Diverse Elastic Distance Functions	776
<i>Baohan Mi, Xin Huo, Changchun He, Chentao Liu, Jinming Du</i>	
Acoustic Simulation and Model Analysis of Water Supply Pipelines Based on Different Failure Modes	782
<i>Lixin Ma, Mingqi Huang, Donghua Chen, Dongdong Li</i>	
BGRN: A Binarized Multimodal Fusion Grasp Prediction Network with Information Recovery Connection	788
<i>Shixiang Li, Jiabao Dong, Yusheng Kong, Haiteng Wang, Zidi Jia, Lei Ren</i>	
TCN-LSTM for Stock Prediction with Sentiment Signals	795
<i>Peiyu Hu, Ruoyu Liu, Jia Wang</i>	
Causal-GATNet: Explainable Evidence-Aware Fake News Detection by Causal Inference	801
<i>Jianwei Cai, Fuyu Xing, Haiyang Zhang, Yangbin Chen, Jianjun Chen, Zhijie Xu</i>	

DRL-based Demand Response Strategy for Industrial Park	807
<i>Yan Wang, Xiaohui Li, Jialu Zhu, Bin Cai, Jie He, Wei Nie</i>	
Fabric-DETR: An Efficient Transformer Network for Multi-Scale Fabric Defect Detection in Complex Environments	813
<i>Fuqin Deng, Qingshan Xia, Lanhui Fu, Yingzhu Wu, Nannan Li, Ningbo Yi, Guangming You, Zhi Xu</i>	
Self-triggered Fault-tolerant Control for Nonlinear Systems	819
<i>Yunfa Zhou, Yongping Du, Hongyan Yang</i>	
Estimation-Control-Scheduling Co-design for Wireless Networked Multi-Agent Systems	825
<i>Peng Li, Yinlong Zhang, Mingsen Chen, Meng Zheng</i>	
Surface Roughness Measurement for Aeroengine Blades Based on 3D Visual Measurement	831
<i>Yue Xu, Yinlong Zhang, Tianyu Wang, Mingsen Chen, Chu Wang, Yang Li</i>	
Study on the Coupling Relationship between Electricity Carbon Intensity and Comprehensive Green Transformation in the Yangtze River Economic Belt	837
<i>Haonan Dou, Yuemin Ding, Si Chen, Xuerui Shi</i>	
A Genetic Programming Approach to Nonlinear Model Identification for Laboratory and Industrial Systems	843
<i>Maksimilian Tarasevich, Aleksei Tepljakov, Eduard Petlenkov</i>	
Multi-sensor information fusion for target automatic tracking under heavily constrained communication	851
<i>Xiaofeng Wang, Penghui Wang, Yifang Shi</i>	
Mission Reliability Assessment for Autonomous Vehicles Considering the State Dependence of End-to-End Latencies	857
<i>Luyao Wang, Yan-Fu Li</i>	
An Integrated Approach for Path Planning and Trajectory Tracking of Unmanned Surface Vehicles Based on Reinforcement Learning and Backstepping	862
<i>Aoshuang Mei, Peng Han, Bofeng Su, Kuan Li, Yihuan Jin, Hongtian Chen</i>	
Stealth Attackers: Failures in Unmanned Autonomous Swarms Induced by Stealth Deviations	868
<i>Gongyi He, Bei Xu, Cong Lin</i>	
Magnetic Flux Leakage Point Cloud For Nondestructive Inspection of Steel Cables	874
<i>Min Zhao, Bingchun Jiang, Song Lu, Jiaming Zhong, Jinrong Cui, Bowei Pang, Qinchuan Lei, Fuqing Deng</i>	
Smart Home Electricity Dynamics Prediction and Collaborative Warning Mechanism Based on Multi-source Heterogeneous Data Fusion	880
<i>Zuowei Chen, HongHao Liang, Zhe Zhang, Qian Wang, Tianyi Zhang, Hao Wang, Lin Lin</i>	
CUDA-Accelerated Simulated Annealing for Optimal Scheduling of Virtual Power Plants	886
<i>Ali Abbasi, Joao L. Sobral, Ricardo Rodrigues</i>	
Frost: A Simulation Platform for Early Validation and Testing of Manufacturing Software	892
<i>Pietro Turco, Sebastiano Gaiardelli, Enrico Fraccaroli, Michele Lora, Samarjit Chakraborty, Franco Fummi</i>	
Cooperative Target Search for UAV Swarm Based on Multi-Hybrid Critic DDPG	900
<i>Ye Hou, Xueru Miao, Bo Li</i>	

Computation and Communication Efficient Lightweighting Vertical Federated Learning for Smart Building IoT	906
<i>Heqiang Wang, Xiang Liu, Yucheng Liu, Jia Zhou, Weihong Yang, Xiaoxiong Zhong</i>	
Wearable Exoskeleton-Based Immersive Teleoperation for Industrial Manufacturing Systems: Hardware Design and Verification	912
<i>Guangwei Zhang, Ruohan Wang, Mengke Wang, Honghao Lyu, Dapeng Lan, Dashun Zhang, Geng Yang</i>	
Deep Learning for Assembly Deviation Estimation: A UNet-based Contact Point Prediction Approach Using Mating Status Image	919
<i>Jiarui Wang, Junfeng Wang, Yixin Dong, Yang Mao, Zijian Wang</i>	
NMPC-based trajectory planning for autonomous vehicles	925
<i>Siying Qin, Likang Song, Lei Yu, Gumin Jin, Yuqing Chen</i>	
GL-MHSA:A Demand Forecasting Method for Related Products in Parts Supply Chain System	931
<i>Jing Zhang, Lei Ren, Jin Cui, Jiajie Wu, Yuqing Wang, Haiteng Wang, Zuo-Jun Max Shen</i>	
Multi-view beef cattle body surface reconstruction by integrating Super4PCS-ICP with improved B-splines	937
<i>Xiang Yexi, Yan Jing, Huang Lyuwen, Zhang Hongming</i>	
A Data-Driven Probing Excitation Method for Nonlinear Modal Analysis of Complex Dynamic Systems	944
<i>Yangming Xu, Zhong Luo, Mingyang Yang, Xinyuan Wang, Yunpeng Zhu, Haobin Wang</i>	
AKP: Actionable Knowledge-Augmented Agent Planning with Large Language Models	950
<i>Hui Yu, Dongchen Zhu, Lei Wang, Jiamao Li</i>	
SAE-Diffu: A Controllable Data Enhancement Method for Semiconductor Chip Defect Images	956
<i>Fuqin Deng, Qiqing Dong, Junhan Pu, Lanhui Fu, Qingshan Xia, Zhi Xu, Nannan Li, Min Zhao</i>	
Leveraging Cloud-Fog Automation for Autonomous Collision Detection and Classification in Intelligent Unmanned Surface Vehicles	962
<i>Thien Tran, Quang Nguyen, Jonathan Kua, Minh Tran, Toan Luu, Thuong Hoang, Jiong Jin</i>	
TSN-Based Scheduling of Task-Network Co-Scheduling on In-Vehicle Multi-Core System	968
<i>Linlin Li, Hailong Zhu, Pengyu Wang, Yuhe Zuo</i>	
WKAgent: World Knowledge-Guided Agent for Task Planning with Large Language Models	975
<i>Hui Yu, Dongchen Zhu, Lei Wang, Jiamao Li</i>	
Efficient Torque Prediction for Digital Twins in Quarry Operations: A Data-Driven and Expert-Guided Approach	981
<i>Abdulkarim Habbab, Anas Fattouh, Mohammad Loni, Koteswar Chirumalla, Bobbie Frank Markus Bohlin</i>	
Domain Generalized Neuromorphic Computing for Cross-Domain Machinery Fault Diagnosis with Dynamic Vision	989
<i>Changhao Liu, Hang Chen, Dehao Cai, Xiang Li, Wei Zhang</i>	
Digital Twin-Enabled Offline Trajectory Generation and Real-Time Control for Robotic Laser Processing on Complex Surfaces	995
<i>Zemin Zhang, Honghao Lyu, Wu Haiteng, Shaohua Tian, Yi Chen, Geng Yang</i>	

Attention-Based Auto-encoder for Graph Anomaly Detection	1000
<i>Shaobo Yang, Cheng Xie</i>	
Light Field Image Super-Resolution via Information Interaction	1007
<i>Zhenwei Xie, Xiaoling Zhang, Wenfei Gao, Zirui Yang</i>	
Dynamic Adaptive Transformer Method for Real-Time Health Monitoring and Operational Trend Prediction of Industrial Equipment	1013
<i>Shuo Zhang, Wei Cheng, Le Zhang, Zelin Nie, Wentao Wang, Haoyu Liu</i>	
Deterministic Communications in Edge AI: 5G-TSN Integration Solutions and Implementation	1019
<i>Zhao ZhuYan, Shen Jun, Li Jun</i>	
Uncertainty-Aware Task Offloading via Federated PDNNs in Multi-Tier Fog Networks	1025
<i>Hoa Tran-Dang, Dong-Seong Kim</i>	
A Blockchain-Based Traceability and Arbitration Framework for the Pharmaceutical Supply Chain	1031
<i>Bin Liu, Xin Huang, Ge Chu, Qiubin Liu, Yongle Hu, Shiping Yan</i>	
A Mixed-Reality Telemanipulation System using Hand Tracking and Digital Twins for Robotic Control	1039
<i>Tong Li, Haoran Wang, Shunjie Gu, Zeren Tao, Xiaohan Wang, Qilei Sun</i>	
A GMM-Assisted Learning Approach for Ranging with IEEE802.15.4 devices	1045
<i>Manjiang Cao, Thomas Watteyne, Tengfei Chang</i>	
High-Performance Architecture for Next-Generation Storage in Virtual Power Plant Management	1053
<i>Ricardo Rodrigues, Manuel Alves, Ali Abbasi, Bruno Cesar, Maria Petiz</i>	
Weakly Labeled Ovarian Cancer Pathological Image Classification Based on Self-Supervised and Multi-Relational Graph Learning	1060
<i>Shiqiang Zhang, Zongmei Zhang, Bin Wang, Jiashuo Shi, Huaiping Jin</i>	
ELLISON: An Advanced Multimodal Deep Fusion Framework for Attention Lapse Detection in Industrial Human-Robot Collaboration	1068
<i>Chen Li, Zhuangzhuang Dai, Dimitrios Chrysostomou</i>	
Lightweight Hybrid Post-Quantum Communication VPN Architecture for Building-Wide IoT Systems	1076
<i>Hao Liu, Zhifu Zhang, Mo Zhou, Gerhard Petrus Hancke</i>	
MsCAFF: Multi-scale Convolutional Attention-based Feature Fusion for Polyp Segmentation	1082
<i>Zilong Fan, Yongjie Liu, Yinlong Zhang, Yang Li</i>	
A multimodal cross-fusion network for rotating machinery fault diagnosis	1088
<i>Jingli Yang, Zihan Wang, Tianyu Gao</i>	
A corrosion detection method based on ultrasonic echo for gearbox surface	1094
<i>Tianyu Gao, Yunlu Li, Jimin Zhang, Jingli Yang, Xiaopeng Fan</i>	
Intelligent Task Offloading in Multi-UAV-Assisted Multi-Tier Distributed Computing Networks	1100
<i>Jiajia Wu, Ni Zhang, Sen Li, Kunlun Wang</i>	
No Blade Left Behind: A Unified Spatial-Temporal Transformer for Aero-Engine Blade Detection	1106
<i>Yinlong Zhang, Yuanhao Liu, Dapeng Lan, Wei Liang, Sichao Zhang, Xudong Yuan</i>	
An Efficient Collaborative Algorithm for Building-Wide Mobile Edge Computing	1110
<i>Hualong Wu, Yucheng Liu, Weizhe Zhang, Desheng Wang</i>	

A Fast Fusion Algorithm for Cervical Cell Microscopic Images Based on the Gray-Scale Characteristics of Papanicolaou Staining	1116
<i>Ziming Zeng, Yinlong Zhang, Mingyi Yang</i>	
DA-Mamba: A Data Augmentation-Enhanced State Space Model for Fertiliser N ₂ O Prediction in Agricultural IoT Applications	1120
<i>Gaoshan Bi, Tong Liu, Yu Zhang, Qing Xue, Yang Li, Po Yang</i>	
Graph Invariant Learning with Feature and Structure Denoising for Out-of-Distribution Data	1124
<i>Xingyan Li, Qingyao Xu, Cheng Xie</i>	
Classification of Cervical Cancer Cytology Images Based on Morphology and Color Features	1133
<i>Ziming Zeng, Yinlong Zhang, Fengrui Xin</i>	
Learning-Based Vehicle Sequencing for On-Ramp Merging in Mixed Traffic	1137
<i>Xiangchen Cheng, Li Jin</i>	
RaLMEN: A Robust UAV Recognition Framework for Low-Altitude Traffic Surveillance	1144
<i>Mohan Xu, Gaoyuan Yang, Yuting Jia, Qiuyue Li, Qingyun Ye, Haowei Wu, Xiaoyu Yan</i>	
Multi-Robot Fault Diagnosis using Federated Graph Learning with Fused Adjacency Matrix	1152
<i>Xiaoxue Mei, Jiong Jin, Jonathan Kua, Xianfeng Yuan, Tiehua Zhang</i>	
Design and Development of a Robust Tolerance Optimisation Framework for Automated Optical Inspection in Semiconductor Manufacturing	1158
<i>Shruthi Kogileru, Mark McBride, Yaxin Bi, Kok Yew Ng</i>	
Research on Disaster Blocking Strategies for Urban Rail Transit Based on Double-Layer Complex Networks	1162
<i>Han Zhao, Suyi Zhao, Shuai Tao, Peiming Ning, Jingya Dong</i>	
CFTel: A Practical Architecture for Robust and Scalable Telerobotics with Cloud-Fog Automation	1167
<i>Thien Tran, Jonathan Kua, Minh Tran, Honghao Lyu, Thuong Hoang, Jiong Jin</i>	
Dynamics-Based Adaptive Scheduling for Large-Scale Edge Computing Networks under Dynamic Scenarios	1173
<i>Yixiao Feng, Yang Chen, Yuemin Ding, Zhengru Ren</i>	
PIFD: A Physical Information-Embedded Frequency-Domain Data-Driven Framework for Condition Monitoring of Generator Bearings	1180
<i>Yulai Zhao, Pengfei Wang, Hang Cao, Qingkai Han, Yunpeng Zhu, Zepeng Liu</i>	
A Multi-view Hybrid Vision Transformer for Diagnosis of Breast Cancer in Automated Breast Ultrasound	1184
<i>Jingzhou Xu, Yifeng Zhang, Hui Shi, Xiang Li, Jiangang Chen, Jun Qi</i>	
Bone Age Assessment Using EfficientNet V2 and Multi-Model Fusion	1192
<i>Zhihao Li, Lixin Deng, Yizhu Tang, Kaip Tse, Jiatao Wu, Yuzhi Huang, TakMan Lo, Renzhi Lu</i>	
A Residual Convolutional Fusion Network for AUV Mixed Faults Diagnosis Based on Multi-Sensor Information Fusion	1198
<i>Qingxu Meng, Chenxing Ni, Chen Feng</i>	

Attention-Guided Time-Channel Masking for Self-Supervised Human Activity Recognition via Masked Sensor Data Reconstruction	1204
<i>Long Yang, Po Yang, Xiyang Peng, Xulong Wang, Jun Qi</i>	
Virtualization Native Cloud Data Center Network	1210
<i>Zhangfeng Hu, Xue Xiao, Yao Chen, Gang Wang, Yanjun Li, Qiuzheng Ren, Xiong Li, Liang Sun</i>	
WiDuo: Dual-Antenna Real-Time Single-Target Passive WiFi Tracking	1218
<i>Hongze Liu, Haiyao Yu, Yifan Feng, Yunkai Hu, Gaoyang Pang</i>	
BCTree: A Fast and Verifiable Tracing Approach for Blockchain-Enabled Reputation Management in Industrial IoT Networks	1224
<i>Wenjian Hu, Yao Yu, Qiuping Li, Xin Hao</i>	
JEDeC for Functional Safety Communication in Industrial Applications	1231
<i>Ming Zhan, Zhibo Pang, Qiang Zhou, Jiangwu Zhang, Kan Yu</i>	
System-Level Optimization for Ultrahigh-Definition OCT with Broadband Swept Lasers	1236
<i>Di Miao, Min Zhao, Jianbo Zhang, Lei Zhang</i>	
Towards Time-Triggered Publish/Subscribe in MQTT for Time-Sensitive Networks (MQTT-TSN)	1244
<i>Michael Nast, Fabian Kummer, Christian Haubelt, Frank Golasowski</i>	
Distributed Hierarchical Scheduling of Real-Time Containerized Tasks in Industrial Edge Systems	1252
<i>Shibo Zhu, Wenwen Wu, Shanying Zhu</i>	
Physics-Data Fusion for Long-Term Voltage Prediction in Vanadium Redox Flow Batteries	1258
<i>Jiajie Zhu, Bo Yang, Mingxuan Cai, Qi Liu, Peng Wang</i>	
A Deep Reinforcement Learning-based Autonomous Robotic Operation Framework for Blood Gas Analyzers	1265
<i>Haiyang Jiang, Tong Liu, Huaping Liu, Visakan Kadirkamanathan, Hang Wu, Kai Wang</i>	
EEG-TBSANet: Temporal-Spectral Fusion Network for Robust Epilepsy Diagnosis from EEG	1271
<i>Shenming Ji, Wei Wang, Jianjun Chen, Jun Qi</i>	
Autonomous Vehicle Path Planning and Path Tracking Control	1277
<i>Dongsheng Yang, Shubin Lin, Wenbo Liu, Chaosheng Huang, Jun Li</i>	
Graph Attention-Based Interpretable Deviation Network for Circulating Water Pump Situational Awareness	1285
<i>Le Zhang, Wei Cheng, Shuo Zhang, Zelin Nie</i>	
Comparative Evaluation of open62541 OPC UA Servers on Embedded Devices	1291
<i>Hannes Raddatz, Fabian Hölzke, Arne Wall, Woojin Im, Frank Golasowski, Christian Haubelt</i>	
IMF-PM: Integrating System Information Modelling and Project Management for Industrial Digitalisation	1297
<i>Qianhang Lyu, Martin G. Skjæveland, Yan Zhou, Yunqing Rao, Arild Waaler, Baifan Zhou</i>	
Exploration of Teaching Reform in the Course of Intelligent Prediction in the Information Age	1303
<i>Jian Ma, Yujie Cheng, Hualiang Wang, Hongmei Liu, Laifa Tao, Chen Lu</i>	
Tyre detection and text recognition pipeline for industrial application	1308
<i>Sergei Kobzak, Till Haas, Dirk Reichelt</i>	

Condition Monitoring of Wind Turbines Based on Source Domain Adaptation	1314
<i>Xiaohang Jin, Jianguang Liu, Zhongzheng Zhao, Lesedi Masisi, Zepeng Liu</i>	
Reward backtracking DQN-driven multi-QoS time slot scheduling method for IWNs	1320
<i>Wei Liang, Jiatong Zheng, Jialin Zhang, Yutuo Yang, Kai Wang</i>	
An LLM-Aided System Information Modelling Methodology Applied in Tennessee Eastman Case	1327
<i>Qianhang Lyu, Siqi Li, Martin G. Skjæveland, Yunqing Rao, Arild Waaler, Baifan Zhou</i>	
Dual-algebra-based Defunct Spacecraft Relative Pose Estimation under Low Sampling Frequency	1331
<i>Hang Chen, Biru Chi, Yueyang Liu, Fei Dong, Qinglei Hu, Xiaodong Shao</i>	
Trajectory Tracking of Fast Steering Mirrors via Minimal Polynomial Augmented MPC with Disturbance Rejection	1337
<i>Xinyu Wang, Fei Dong, Jianying Zheng, Qinglei Hu, Xiaodong Shao, Dongyu Li</i>	
Time-Triggered Communication for Deterministic Ad Hoc Networks	1343
<i>Yu Peng, Yiming Zheng, Runqi Hu, Zonghui Li, Bo Ai, Cheng Long, Zixiao Wang, Zhibo Pang</i>	
Towards Change-Instructed Action and Explanation Generation for Visual Language Action in Autonomous Driving	1350
<i>Yan Zhou, Baifan Zhou, Ingrid C. Yu</i>	
StableNet based Underwater Object Detection in Side-scan Sonar Images	1354
<i>Na Gao, Xiaoxia Yang, Huiwen Zhang, Ning Wang, CuiCui Zhang</i>	
Emerging Requirements for AI and Edge Computing in Cyber-Physical Production Systems	1360
<i>Rui Pinto, Gil Gonçalves</i>	
Displacement Sensing Based on Beam Pattern Trajectory Fusion and Contrastive Learning	1366
<i>Chaoyi Wei, Weiwei Li, Yiqiao Wei, Ning Wang</i>	
Quality-Efficiency Driven Co-Optimization of Scheduling and Process in SMT Assembly	1372
<i>Zhengkai Li, Hao Sun, Xinghu Yu, Tong Wang, Zhihong Zhao, Qin Zhao, Huijun Gao Juan J. Rodríguez-Andina</i>	
Causal Regularization Graph Attention Network for Stable Variables Decoupling and Fault Diagnosis of Complex Industrial Processes	1377
<i>Ruonan Liu, Puyuan Hu, Siheng Zhao, Shifei Ma, Di Lin, Weidong Zhang</i>	
Identification of Aviation Engine Performance Degradation Paths and Remaining Useful Life Prediction Under Multiple Fault Modes Based on DTW-K-Medoids and Informer	1383
<i>Dongjiang Xie, Mengwei Li, Jinfu Jiang, Tonglin Luo, Jian Ma</i>	
Self-Supervised Anomaly Detection for Parkinson's Disease in Free-Living Environment	1389
<i>Chuxiong Huang, Xulong Wang, Xiyang Peng, Peng Yue, Jun Qi, Yun Yang, Po Yang</i>	
RL-Based Joint Latency Optimization for Software-Defined Wireless Cloud Fog Automation	1395
<i>Yijia Liu, Zhibo Pang, Renzhi Lu, Yuemin Ding</i>	
Kriging-based Sobol Sensitivity Analysis for Design of Experiments under Correlated Inputs	1399
<i>Shixuan Zhang, Jie Ma</i>	

Towards Few-shot LLM-based Vulnerability Reproduction and Verification for Industrial Web Applications	1405
<i>Gang Yang, Lin Ni, Shaofeng Lin, Tao Xia</i>	
LoadGuard: An Adaptive Deep Learning Model for Smart Meter Electricity Theft Detection	1411
<i>Xiaolu Chen, Chenghao Huang, Yanru Zhang, Hao Wang</i>	
A 40dB Gain 100Hz-100kHz Band-Pass Filter	1417
<i>Zhi Li, Penghai Li, Quanzhen Duan, Yuemin Ding</i>	
Air Quality Sensors for Energy-saving and Self-diagnostics of a Local Exhaust Ventilation System with Self-powered Airflow Controller	1422
<i>Zheng Jun Chew, Latifah Munirah Kamarudin, Ammar Zakaria, Syed Muhammad Mamduh Syed Zakaria Balreddy Kothakapu, Roger Watson, Clive Bates</i>	
AoI-Aware Wireless Resource Scheduling Based on Deep Reinforcement Learning	1426
<i>Tianjiao Bai, Xiaoling Zhang, Xiao Xie</i>	
Research on Industry Asset Information Description and modelling of the Architecture Design	1432
<i>Lu Tielin, Fan Zitian, Yue Lei, Xie Haiqin, Huang Qingqing, Yujia Shang</i>	
Design for the Industry device function model with the AutomationML based on AAS	1436
<i>Ding Lu, Tielin Lu, Yue Lei, Fan Zitian, Wang Yubo, Fu Jiajun</i>	
Co-design of Energy-Aware Communication, Computation, and Control for Industrial Control System	1439
<i>Shuhao Qiang, Xiaoling Zhang, Xiao Xie</i>	
Performance Evaluation Scheme and Implementation of High-Speed Bus for Oil and Gas Pipelines	1445
<i>Wang Chenghui, Zhang Xiaoling, Xu Ming, Huang Yi, Xue Baihua</i>	
Automatic testing of IEC 61499 automation systems with simulator in the loop in cloud environment	1450
<i>Roman Rumiantcev, Tung Nguyen, Tuojian Lyu, Mikhail V. Kolesnikov, Valeriy Vyatkin</i>	
TFMSR-AD: A Time-Frequency Multiscale Reconstruction Approach for Anomaly Detection in Coal Mining Production Processes	1456
<i>Chengzhi Yuan, Hao Fang, Haining Wang, Shuangliang Tian, Hui Zhang</i>	
LLM-based Iterative Requirements Refinement in FSM with IEC 61499 Code Generation	1463
<i>Valeriy Vyatkin, Sandeep Patil, Dmitrii Drozdov, Anatoly Shalyto</i>	
Key Technologies and Systems for Smart Livestock Farming: A Case Study Based on Muyuan Group	1470
<i>Dexter Zhang</i>	
GrainSegNet: Towards Effective and Efficient Material Microstructure Segmentation	1475
<i>Ruoyu Tian, Xuecheng Zhang, Sen Liu, Yingyao Wang, Chaojie Gu, Yuefei Zhang, Linshan Jiang</i>	
3S-YOLO-An Improved Image Segmentation Algorithm for Complex Urban Roads	1481
<i>Lingrui Ye, Faan Wang, Zhaoguo Zhang, Shifei Jiang, Yanbo Lu, Jinhao Liang</i>	
An Active Learning Sampling-based Quality Prediction Method for Multi-indicators of Hot-rolled Strip Cross-section	1487
<i>Chengyan Ding, Yehui Qin, Jie Dong, Wen Peng, Dianhua Zhang, Jie Sun</i>	

A novel compound fault decoupling and diagnosis framework based on physics-constraint denoising diffusion probabilistic model	1493
<i>Zhibin Guo, Jingsong Xie, Tiantian Wang, Yuntian Ta, Buyao Yang, Qitao Yin</i>	
UAV-Assisted Power Line Inspection over Fading Channels: A Deep Reinforcement Learning Approach	1499
<i>Yuanpeng Ge, Siyuan Qian, Junyi Shen</i>	
Investigation of Influencing Factors on Brake Emissions Through Simulation and Testing	1505
<i>Ali Kaan Uçan, Mert Dal, Emre Deniz Karlı, Tolga Erdem, Oğuzhan Arslantürk</i>	
Establishment and Accuracy Analysis of the Atmospheric Weighted Mean Temperature Model in Yunnan Province	1510
<i>Jie Gao, Yunlong Zhu</i>	