

ESCI, EI 等数据库收录期刊

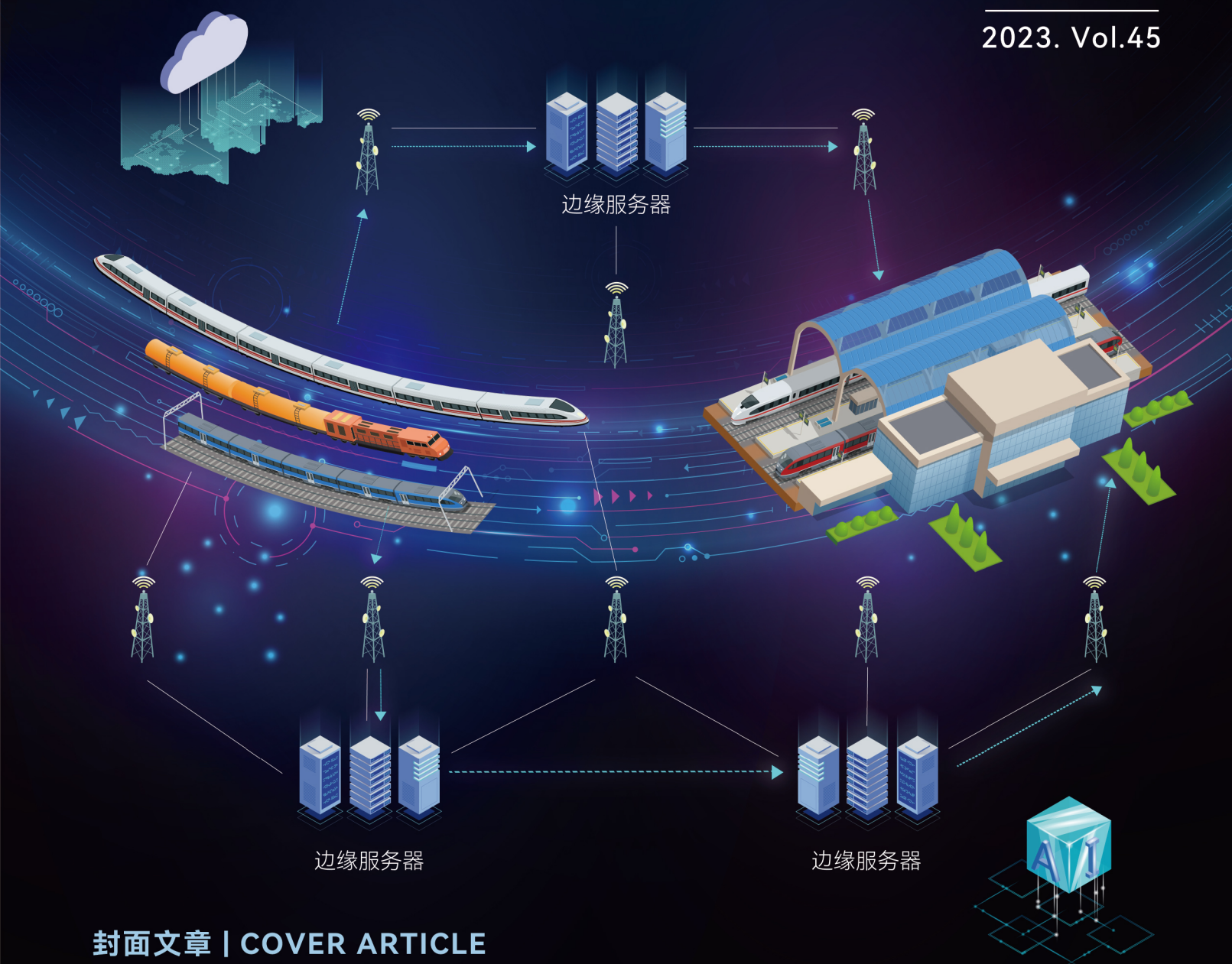
ISSN 1009-5896
CODEN DKXUEC
CN 11-4494/TN

电子与信息学报

JOURNAL OF ELECTRONICS & INFORMATION TECHNOLOGY

4

2023. Vol.45



封面文章 | COVER ARTICLE

边缘智能在轨道交通中的应用：前景与展望

Application of Edge Intelligence in Rail Transit: Prospects and Future Outlook

DOI: 10.11999/JEIT220116



电子与信息学报

DIANZI YU XINXI XUEBAO

第 45 卷 第 4 期

2023 年 4 月

目 次

无线通信与物联网

- 基于连续凸逼近的协作式非正交多址接入联合无线携能通信的能效优化方案 冯 煜, 胡忠颖, 巴特尔 (1147)
- 基于位置预测的智慧公路边缘任务协同机制 邵苏杰, 柴睿均, 郭少勇, 吴 双, 王智立, 邱雪松 (1154)
- 基于点云极化表征与孪生网络的智能车定位 陶倩文, 胡钊政, 万金杰, 胡华桦, 张 明 (1163)
- 基于多智能体深度强化学习的D2D通信资源联合分配方法 邓炳光, 徐成义, 张 泰, 孙远欣, 张 楠, 裴二荣 (1173)
- 基于MP-WFRFT的多维联合调制卫星隐蔽通信研究 倪 磊, 达新宇, 胡 航, 王浩波 (1183)
- 多层多参数多项加权分数阶傅里叶变换复合调制通信信号设计方法 杨宇晓, 高 萍 (1192)
- 多用户认知非正交多址接入系统中断性能分析及功率分配算法 申 滨, 张 楠, 蒋慧林, 董坤明 (1201)
- 基于MF协议的协作NOMA系统物理层安全性能研究 张延良, 田月华, 李兴旺, 黄高见 (1211)
- 基于基矩阵排列优化算法的非规则准循环低密度奇偶校验码构造 赵 辉, 余孟洁, 安 静, 邝凯达, 吕典楷, 刘媛妮 (1219)

雷达、电磁场与电磁波、阵列信号处理

- 基于回归分析理论的辐射源个体识别技术 赵雅琴, 杨荣乾, 吴龙文, 何胜阳, 牛金鹏, 赵 亮 (1227)
- 一种多元信息辅助的双基地雷达检测跟踪一体化方法 严俊坤, 王颖萍, 吕进东, 邓晓波, 刘宏伟 (1236)
- 机载多维度SAR航空观测系统实验初步进展 周良将, 汪丙南, 王亚超, 朱勇涛, 焦泽坤, 宋 晨, 王钟斌, 韩 冬, 丁赤飏 (1243)
- 机载合成孔径雷达高度计高程参数贝叶斯估计 杨 磊, 周弘昊, 黄 博, 廖仙华, 夏亚波 (1254)
- 基于相似性传播的天波雷达多路径量测聚类 白向龙, 兰 华, 张 卓, 王增福, 潘 泉 (1265)
- 双基地雷达栅栏覆盖的二维布站优化方法 李海鹏, 冯大政, 王晓辉, 贺 龙, 周亚鹏 (1275)
- 基于低秩汉克尔矩阵重构技术的星载间断调频连续波SAR成像方法 闵 林, 刘向前, 郝晓龙, 郭拯危, 李 宁 (1285)
- 一种脉冲重复间隔固定序列快速检测方法 樊甫华, 史英春, 秦立龙 (1293)
- 基于联合似然函数的多扩展目标广义标签多伯努利滤波器 刘艺多, 姬红兵, 张永权 (1303)
- 非凸投影自适应Hammerstein滤波算法 刘兆霆, 鲍辉明, 姚英彪 (1313)
- 基于RPCA的地基SAR近距强耦合信号抑制算法研究 ... 林 赞, 时 清, 王彦平, 李 洋, 申文杰, 田子威 (1321)
- 一种极化复用的聚焦惠更斯超表面设计 郝宏刚, 冉雪红, 郑 森, 唐逸豪, 阮 巍 (1330)
- 超低频天线最优波束成形设计研究 马 帅, 高梦迪, 曹世昱, 方 啸, 张冠杰, 王洪梅, 李世银 (1338)

密码学与信息安全

- 基于区块链的多关键词模糊搜索加密方案 闫玺玺, 冯苏伟, 汤永利, 尹 沛 (1346)

FastProtector: 一种支持梯度隐私保护的高效联邦学习方法 林 莉, 张笑盈, 沈 薇, 王万祥 (1356)

基于主从博弈的分层联邦学习激励机制研究 贾云健, 黄 宇, 梁 靓, 万杨亮, 周继华 (1366)

基于Markov攻击图和博弈模型的区块链安全态势感知方法
..... 罗智勇, 宋伟伟, 张文博, 王建明, 李 杰 (1374)

图像与智能信息处理

基于密度分类引导的双阶段雨天图像复原方法 梅天灿, 曹 敏, 杨 宏, 高 智, 易国洪 (1383)

一种基于蚁狮最大熵算法与引导滤波的图像融合算法 蒋杰伟, 刘尚辉, 金 库, 魏戌盟, 巩稼民 (1391)

基于线性映射场的fNIRS信号特征提取与分析 姚宇轩, 孙兆辉, 高毓兵, 吴 奇 (1401)

一种结合三重注意力机制的双路径网络胸片疾病分类方法 李 锴, 王 旭, 关 欣 (1412)

基于光谱注意力图卷积网络的高光谱图像分类 孔 毅, 纪定哲, 程玉虎, 王雪松 (1426)

基于脚点热度图和双向连接图的遥感影像建筑物提取方法
..... 张利利, 张津铭, 刘雄飞, 乔海浪, 王宏琦 (1435)

基于特征增强模块的小尺度行人检测 陈 勇, 金曼莉, 刘焕淋, 汪 波, 黄美永 (1445)

基于对比层级相关性传播的由粗到细的类激活映射算法研究 孙 辉, 史玉龙, 王 蕊 (1454)

基于自适应快速S变换和XGBoost的心电信号精确快速分类方法
..... 袁莉芬, 李 松, 尹柏强, 李 兵, 佐 磊 (1464)

基于渐进式学习与多尺度增强的客体视觉注意力估计方法 丰江帆, 何中鱼 (1475)

基于骨架动作识别的协作卷积Transformer网络 石跃祥, 朱茂清 (1485)

图像边缘权重优化的最小生成树分割提取 林坚普, 王 栋, 肖智阳, 林志贤, 张永爱 (1494)

考虑工人培养的移动群智感知任务分配机制
..... 吕 翊, 王 燕, 崔亚平, 何 鹏, 吴大鹏, 王汝言 (1505)

综述评论

边缘智能在轨道交通中的应用: 前景与展望 朱 力, 龚泰源, 梁 豪, 唐 涛, 王 悉, 王洪伟 (1514)

JOURNAL OF ELECTRONICS & INFORMATION TECHNOLOGY

Vol.45 No.4 April 2023

CONTENTS

Wireless Communication and Internet of Things

- Energy Efficiency Optimization Algorithm of Cooperative Non-Orthogonal Multiple Access joint Simultaneous Wireless Information and Power Transfer Based on Successive Convex Approximation *FENG Man, HU Zhongying, Bateer* (1147)
- A Collaborative Mechanism for Smart Highway Edge Tasks Based on Location Prediction *SHAO Sujie, CHAI Ruijun, GUO Shaoyong, WU Shuang, WANG Zhili, QIU Xuesong* (1154)
- Intelligent Vehicle Localization Based on Polarized LiDAR Representation and Siamese Network *TAO Qianwen, HU Zhaozheng, WAN Jinjie, HU Huahua, ZHANG Ming* (1163)
- A Joint Resource Allocation Method of D2D Communication Resources Based on Multi-agent Deep Reinforcement Learning *DENG Bingguang, XU Chengyi, ZHANG Tai, SUN Yuanxin, ZHANG Lin, PEI Errong* (1173)
- Research on Multi-dimensional Joint Modulation for Satellite Covert Communication Based on MP-WFRFT *NI Lei, DA Xinyu, HU Hang, WANG Haobo* (1183)
- Design Method of Multi-layer Multi-Parameter Multi-term Weighted-type FRactional Fourier Transform Composite Modulation Communication Signal *YANG Yuxiao, GAO Ping* (1192)
- Outage Performance Analysis and Power Allocation Algorithm of Multi-user Cognitive Radio Non-Orthogonal Multiple Access System *SHEN Bin, ZHANG Nan, JIANG Huilin, DONG Kunming* (1201)
- Research on Physical Layer Security of Cooperative NOMA System Based on MF Protocol *ZHANG Yanliang, TIAN Yuehua, LI Xingwang, HUANG Gaojian* (1211)
- Irregular Quasi Cyclic Low Density Parity Check Code Construction Based on Basis Matrix Arrangement Optimization Algorithm *ZHAO Hui, YU Mengjie, AN Jing, KUANG Kaida, LÜ Diankai, LIU Yuanni* (1219)

Radar, Electromagnetic Fields and Waves, Array Signal Processing

- Specific Emitter Identification Based on Regression Analysis Theory *ZHAO Yaqin, YANG Rongqian, WU Longwen, HE Shengyang, NIU Jinpeng, ZHAO Liang* (1227)
- An Integrated Detection and Tracking Algorithm Assisted by Multi-information for Bistatic Radar *YAN Junkun, WANG Yingping, LÜ Jindong, DENG Xiaobo, LIU Hongwei* (1236)
- Preliminary Process of Airborne Multidimensional Space Joint-observation SAR System *ZHOU Liangjiang, WANG Bingnan, WANG Yachao, ZHU Yongtao, JIAO Zekun, SONG Chen, WANG Zhongbin, HAN Dong, DING Chibiao* (1243)
- Elevation Estimation for Airborne Synthetic Aperture Radar Altimetry Based on Parameterized Bayesian Learning *YANG Lei, ZHOU Honghao, HUANG Bo, LIAO Xianhua, XIA Yabo* (1254)
- Multipath Measurements Clustering of Over-The-Horizon Radar Based on Affinity Propagation *BAI Xianglong, LAN Hua, ZHANG Zhuo, WANG Zengfu, PAN Quan* (1265)
- Two-dimensional Deployment Optimization Method for the Barrier Coverage of Bistatic Radars *LI Haipeng, FENG Dazheng, WANG Xiaohui, HE Long, ZHOU Yapeng* (1275)
- Spaceborne Interrupted Frequency Modulate Continuous Wave SAR Imaging Based on Low-Rank Hankel Matrix Reconstruction Technique *MIN Lin, LIU Xiangqian, HAO Xiaolong, GUO Zhengwei, LI Ning* (1285)
- A Method of Fast Detecting Sequence for Stable Pulse Repetition Interval *FAN Fuhua, SHI Yingchun, QIN Lilong* (1293)
- A Multiple Extended Target Generalized Labeled Multi-Bernoulli Filter Based on Joint Likelihood Function *LIU Yiduo, JI Hongbing, ZHANG Yongquan* (1303)

(To be continued on inside back cover)

(Continued)

Non-Convex Projection Adaptive Hammerstein Filtering	<i>LIU Zhaoting, BAO Huiming, YAO Yingbiao</i>	(1313)
Near-range Strong Coupled Signal Suppression Algorithm Based on RPCA for GBSAR	<i>LIN Yun, SHI Qing, WANG Yanping, LI Yang, SHEN Wenjie, TIAN Ziwei</i>	(1321)
Design of a Polarization Multiplexed Focused Huygens Metasurface	<i>HAO Honggang, RAN Xuehong, ZHENG Sen, TANG Yihao, RUAN Wei</i>	(1330)
Research on Optimal Beamforming Design of Ultra-low Frequency Antenna	<i>MA Shuai, GAO Mengdi, CAO Shiyu, FANG Xiao, ZHANG Guanjie, WANG Hongmei, LI Shiyin</i>	(1338)

Cryption and Information Security

Multi-keyword Fuzzy Search Encryption Scheme Based on Blockchain	<i>YAN Xixi, FENG Suwei, TANG Yongli, YIN Pei</i>	(1346)
FastProtector: An Efficient Federated Learning Method Supporting Gradient Privacy Protection	<i>LIN Li, ZHANG Xiaoying, SHEN Wei, WANG Wanxiang</i>	(1356)
Research on Hierarchical Federated Learning Incentive Mechanism Based on Master-Slave Game	<i>JIA Yunjian, HUANG Yu, LIANG Liang, WAN Yangliang, ZHOU Jihua</i>	(1366)
Blockchain Security Situational Awareness Method Based on Markov Attack Graph and Game Model	<i>LUO Zhiyong, SONG Weiwei, ZHANG Wenbo, WANG Jianming, LI Jie</i>	(1374)

Image and Intelligent Information Processing

Two-stage Rain Image Removal Based on Density Guidance	<i>MEI Tiancan, CAO Min, YANG Hong, GAO Zhi, YI Guohong</i>	(1383)
An Image Fusion Algorithm Based on Ant Lion Optimized Maximum Entropy Segmentation and Guided Filtering	<i>JIANG Jiawei, LIU Shanghui, JIN Ku, WEI Xumeng, GONG Jiamin</i>	(1391)
Feature Extraction and Analysis of fNIRS Signals Based on Linear Mapping Field	<i>YAO Yuxuan, SUN Zhaohui, GAO Yubing, WU Qi</i>	(1401)
A Dual-path Network Chest Film Disease Classification Method Combined with a Triple Attention Mechanism	<i>LI Qiang, WANG Xu, GUAN Xin</i>	(1412)
HyperSpectral Image Classification Based on Spectral Attention Graph Convolutional Network	<i>KONG Yi, JI Dingzhe, CHENG Yuhu, WANG Xuesong</i>	(1426)
Building Extraction from Satellite Imagery Based on Footprint Map and Bidirectional Connection Map	<i>ZHANG Lili, ZHANG Jinming, LIU Xiongfei, QIAO Hailang, WANG Hongqi</i>	(1435)
Small-scale Pedestrian Detection Based on Feature Enhancement Strategy	<i>CHEN Yong, JIN Manli, LIU Huanlin, WANG Bo, HUANG Meiyong</i>	(1445)
Study of Coarse-to-Fine Class Activation Mapping Algorithms Based on Contrastive Layer-wise Relevance Propagation	<i>SUN Hui, SHI Yulong, WANG Rui</i>	(1454)
Accurate and Fast ElectroCardioGram Classification Method Based on Adaptive Fast S-Transform and XGBoost	<i>YUAN Lifan, LI Song, YIN Baiqiang, LI Bing, ZUO Lei</i>	(1464)
Objective Visual Attention Estimation Method via Progressive Learning and Multi-scale Enhancement	<i>FENG Jiangfan, HE Zhongyu</i>	(1475)
Collaborative Convolutional Transformer Network Based on Skeleton Action Recognition	<i>SHI Yuexiang, ZHU Maoqing</i>	(1485)
Minimum Spanning Tree Segmentation and Extract with Image Edge Weight Optimization	<i>LIN Jianpu, WANG Dong, XIAO Zhiyang, LIN Zhixian, ZHANG Yong'ai</i>	(1494)
Worker Development-Aware Task Allocation Strategy in Mobile Crowd Sensing	<i>LÜ Yi, WANG Yan, CUI Yaping, HE Peng, WU Dapeng, WANG Ruyan</i>	(1505)

Overviews

Application of Edge Intelligence in Rail Transit: Prospects and Future Outlook	<i>ZHU Li, GONG Taiyuan, LIANG Hao, TANG Tao, WANG Xi, WANG Hongwei</i>	(1514)
--	---	--------