

计算机科学

(JISUANJI KEXUE)

第 53 卷 第 2 期 2026 年 2 月

目 次

基于图机器学习的教育数据挖掘

- | | |
|---|--------------|
| 1 个性化教育资源推荐综述 | 席鹏晖 吴夏桢 蒋文聪等 |
| 16 基于图神经网络的学业表现预测方法研究综述 | 翟 洁 陈乐旋 庞智玉 |
| 31 基于双层级对比学习的健壮知识追踪模型 | 陈晓岚 毛 舜 李伟生等 |
| 39 基于方向感知孪生网络的知识概念先序关系预测方法 | 杨 明 贺超波 杨佳琦 |
| 48 基于轻量级教育大模型的个性化实践学习资料动态推荐 | 翟 洁 李艳豪 陈乐旋等 |
| 57 CPViG-Net: 基于局部跨阶段视觉图卷积的学生课堂行为识别 | 张浩鹏 施 铮 刘 峰等 |
| 67 融合跨模态注意力与角色交互的学生课堂专注度研究 | 卓铁农 英 迪 赵 晖 |
| 78 GTKT: 融合联通主义学习和多层时序图 Transformer 的知识追踪模型 | 李佳豪 荆军昌 徐 茜等 |
| 89 基于多模态体育教育数据的图空间融合动作识别方法 | 陈海涛 梁俊威 陈 晨等 |
| 99 DCL-FKT: 融合双重对比学习与遗忘机制的个性化知识追踪模型 | 李春英 汤志康 庄邗玮等 |

计算机体系结构

- | | |
|-------------------------------|--------------|
| 107 基于线程池任务调度的局部同步 FMI 联合仿真方法 | 薛朝阳 钱晓超 刘 飞 |
| 117 基于条件语句半不变性分析的循环分裂优化 | 韩 林 邵晶晶 聂 凯等 |
| 124 基于网格化粒子群搜索算法的最大浮点误差并行检测方法 | 冀立光 周 蓓 杨鸿儒等 |
| 133 基于黑盒插桩的闭源数据库管理系统的模糊测试技术研究 | 李忠杰 梁皓天 贾浩阳等 |

数据库 & 大数据 & 数据科学

- | | |
|------------------------------------|--------------|
| 145 融合对比学习的掩码图自编码器 | 王新喻 宋小民 郑慧明等 |
| 152 基于用户静态兴趣和去噪隐式负反馈的新闻推荐算法 | 魏金生 周 苏 卢官明等 |
| 161 基于时频域注意力的时间序列异常检测模型 | 徐敬涛 杨 燕 江永全 |
| 170 D-LINet: 融合双线性层与双向归一化的时间序列预测框架 | 耿海军 李东鑫 |
| 180 融合多尺度特征和注意力机制的时间序列预测模型 | 潘 建 汪绪豪 |
| 187 基于动态数据敏感等级的大数据细粒度访问控制模型 | 张 焕 侯明星 刘光娜等 |
| 196 数据空间中基于纠删码的数据布局策略 | 林 兵 姜海鸥 檀 啸等 |
| 207 面向业务流程动态调整的异常检测与修复方法 | 刘笑洁 方贤文 |
| 216 基于变密度的自适应数据流的异常检测算法 | 唐承海 杨雨晴 杨海峰等 |

计算机图形学 & 多媒体

- | | | | |
|-----------------------------|-----|-----|------|
| 227 多模态水声图像目标视觉检测 | 黄靖 | 王腾 | 刘健等 |
| 236 双支特征融合的带约束的多损失视频异常检测 | 韩磊 | 商浩宇 | 钱小燕等 |
| 245 基于注意力机制的音频驱动数字人脸视频生成方法 | 郭星星 | 肖雁南 | 温佩芝等 |
| 253 语义引导的红外与可见光图像混合交叉特征融合方法 | 季赛 | 乔礼维 | 孙亚杰 |
| 264 聚焦边界和多尺度特征融合的脑卒中病灶分割 | 刘晨红 | 李凤莲 | 阳佳等 |

人工智能

- | | | | |
|-------------------------------|-----|-----|------|
| 273 知识图谱的复杂逻辑查询方法研究综述 | 陈昱胤 | 李贯峰 | 秦晶等 |
| 289 融合仇恨对象特征与变体词还原机制的中文仇恨言论检测 | 孙明旭 | 梁刚 | 吴逸飞等 |
| 300 用于中英文讽刺检测的动态交互双通道图注意力网络 | 谭萍萍 | 徐计 | 李逸骏等 |
| 312 基于提示学习与自适应损失加权的汉越产业文本分类 | 陈霖 | 马龙轩 | 张勇丙等 |
| 322 深度融合句法和语义特征的情感三元组片段级抽取方法 | 常轩伟 | 段利国 | 陈嘉昊等 |
| 331 基于背景结构感知的小样本知识图谱补全 | 张静 | 潘景豪 | 姜文超 |
| 342 基于可穿戴传感器的人体运动识别算法 | 蒋磊 | 王子 | 杨荣等 |
| 349 基于迁移知识选择和种群削减的进化多任务优化算法 | | 李二超 | 黄鹏飞 |
| 358 基于拓扑虚拟结构洞节点的分布式多智能体快速共识寻求 | 谢光强 | 邱枫阳 | 李杨 |

计算机网络

- | | | | |
|--|-----|-----|------|
| 367 移动边缘计算卸载技术研究综述 | 桓海盛 | 赵鹏 | 陈诺等 |
| 379 面向用户的移动群智感知动态负载均衡任务分配策略 | 李凡 | 吴亚辉 | 邓苏等 |
| 387 基于多目标优化的大规模 Hadoop 集群虚拟机放置 | 文佳 | 吴舒霞 | 于正欣等 |
| 396 基于博弈论的 UAV 辅助 MEC 系统中飞行路径及任务卸载优化研究 | 韦煜熠 | 王高才 | 温一虎 |
| 406 低轨卫星网络中基于深度强化学习的航空器任务卸载策略 | 李芳 | 袁宝淳 | 沈航等 |
| 416 面向低地球轨道卫星的高能效 RoI 分片拍摄任务调度方案 | 高培泽 | 田厉锋 | 李跃鹏等 |

信息安全

- | | | | |
|---------------------------|-----|-----|------|
| 423 基于异构图注意力网络的智能合约漏洞检测方法 | 李诚宇 | 黄可 | 张锐恒等 |
| 431 支持分层访问控制的弱中心化敏感数据共享方案 | 郑开发 | 孙炜 | 周俊旭等 |
| 442 基于用户行为的云邮件防御资源分配方法 | | 张万友 | 宋礼鹏 |

COMPUTER SCIENCE

Vol. 53 No. 2 Feb. 2026

CONTENTS

Educational Data Mining Based on Graph Machine Learning

- 1 Review of Personalized Educational Resource Recommendations XI Penghui et al.
16 Survey on Graph Neural Network-based Methods for Academic Performance Prediction ZHAI Jie et al.
31 Robust Knowledge Tracing Model Based on Two-level Contrastive Learning CHEN Xiaolan et al.
39 Direction-aware Siamese Network for Knowledge Concept Prerequisite Relation Prediction YANG Ming et al.
48 Dynamic Recommendation of Personalized Hands-on Learning Materials Based on Lightweight Educational LLMs ZHAI Jie et al.
57 CPViG-Net: Students' Classroom Behavior Recognition Based on Cross-stage Visual Graph Convolution ZHANG Haopeng et al.
67 Research on Student Classroom Concentration Integrating Cross-modal Attention and Role Interaction ZHUO Tienong et al.
78 GTKT: Knowledge Tracing Model Integrating Connectivism Learning and Multi-layer Temporal Graph Transformer LI Jiahao et al.
89 Multimodal Physical Education Data Fusion via Graph Alignment for Action Recognition CHEN Haitao et al.
99 DCL-FKT: Personalized Knowledge Tracing via Dual Contrastive Learning and Forgetting Mechanism LI Chunying et al.

Computer Architecture

- 107 Local Synchronous FMI Co-simulation Method Based on Thread Pool Task Scheduling XUE Zhaoyang et al.
117 Loop Splitting Based on Conditional Statement Invariance Analysis HAN Lin et al.
124 Parallel Detection Method of Maximum Floating-point Error Based on Gridding Particle Swarm Optimization Algorithm JI Liguang et al.
133 Research on Fuzz Testing Techniques for Closed-source DBMSs Based on Black-box Instrumentation LI Zhongjie et al.

Database & Big Data & Data Science

- 145 Contrastive Learning-based Masked Graph Autoencoder WANG Xinyu et al.
152 News Recommendation Algorithm Based on User Static and Dynamic Interests and Denoised Implicit Negative Feedback WEI Jinsheng et al.
161 Time-Frequency Attention Based Model for Time Series Anomaly Detection XU Jingtao et al.
170 D-LINet: Time Series Forecasting Framework Integrating Dual-linear Layers and Dual Normalization GENG Haijun et al.
180 Time Series Forecasting Model Integrating Multi-scale Features and Attention Mechanism PAN Jian et al.
187 Fine-grained Access Control Model for Big Data Based on Dynamic Data Sensitivity Levels ZHANG Huan et al.
196 Data Placement Strategy Based on Erasure Code in Data Space LIN Bing et al.

- 207 Anomaly Detection and Repair Methods for Dynamic Adjustment of Business Process LIU Fujie et al.
216 Adaptive Data Stream Anomaly Detection Algorithm Based on Variable Density TANG Chenghai et al.

Computer Graphics & Multimedia

- 227 Multimodal Visual Detection for Underwater Sonar Target Images HUANG Jing et al.
236 Constrained Multi-loss Video Anomaly Detection with Dual-branch Feature Fusion HAN Lei et al.
245 Attention-based Audio-driven Digital Face Video Generation Method GUO Xingxing et al.
253 Semantic-guided Hybrid Cross-feature Fusion Method for Infrared and Visible Light Images JI Sai et al.
264 Boundary-focused Multi-scale Feature Fusion Network for Stroke Lesion Segmentation
LIU Chenhong et al.

Artificial Intelligence

- 273 Survey on Complex Logical Query Methods in Knowledge Graphs CHEN Yuyin et al.
289 Chinese Hate Speech Detection Incorporating Hate Object Features and Variant Word
Restoration Mechanism SUN Mingxu et al.
300 Dynamic Interaction Dual-channel Graph Attention Network for Chinese and English
Sarcasm Detection TAN Pingping et al.
312 Industrial Text Classification for Chinese and Vietnamese Based on Prompt Learning and
Adaptive Loss Weighting CHEN Lin et al.
322 Method for Span-level Sentiment Triplet Extraction by Deeply Integrating Syntactic
and Semantic Features CHANG Xuanwei et al.
331 Background Structure-aware Few-shot Knowledge Graph Completion ZHANG Jing et al.
342 Human Motion Recognition Algorithm Based on Wearable Sensors JIANG Lei et al.
349 Evolutionary Multi-task Optimization Algorithm Based on Transfer Knowledge Selection and
Population Reduction LI Erchao et al.
358 Fast Consensus Seeking in Distributed Multi-agent System Using Topology Virtual
Structural Hole Node XIE Guangqiang et al.

Computer Network

- 367 Review of Offloading Technologies Research in Mobile Edge Computing HUAN Haisheng et al.
379 Load Balancing Task Allocation Strategy for User-oriented Mobile Crowdsensing LI Fan et al.
387 Multi-objective Optimization for Virtual Machine Placement in Large-scale Hadoop Cluster WEN Jia et al.
396 Game Theory-based Optimization of Flight Paths and Task Offloading in UAV-assisted MEC
Systems WEI Manyi et al.
406 Deep Reinforcement Learning-based Aircraft Task Offloading in Low Earth Orbit Satellite
Networks LI Fang et al.
416 Energy-efficiency RoI Slicing Capturing Task Scheduling Scheme for LEO Satellites GAO Peize et al.

Information Security

- 423 Heterogeneous Graph Attention Network-based Approach for Smart Contract Vulnerability
Detection LI Chengyu et al.
431 Weakly-decentralized Scheme for Sensitive Data Sharing with Hierarchical Access Control
ZHENG Kaifa et al.
442 Cloud Email Defense Resource Allocation Method Based on User Behavior ZHANG Wanyou et al.