

# Journal of Computer Applications

Vol. 45 No. 7 Jul. 2025

## Contents

### The 39th CCF National Conference of Computer Applications (CCF NCCA 2024)

Review of interpretable deep knowledge tracing methods .....	SUO Jinxian, ZHANG Liping, YAN Sheng, WANG Dongqi, ZHANG Yawen( 2043 )
Survey of sequential pattern mining .....	DAI Zhenlong, HAN Meng, YANG Wenyan, ZHU Shineng, YANG Shurong( 2056 )
Review of conflict-based cache side-channel attacks and eviction sets .....	YAO Zihao, MA Ziqiang, LI Yang, WEI Lianggen( 2070 )
Survey of DNS tunneling detection technology research .....	ZHENG Zhiqiang, WANG Ruiqi, FAN Zijing, HE Famei, YAO Yepeng, WANG Qiuyun, JIANG Zhengwei( 2079 )
Blockchain sharding mechanism in asynchronous network based on HoneyBadgerBFT and DAG .....	CHEN Yuxuan, ZHENG Haibin, GUAN Zhenyu, SU Boheng, WANG Yujue, GUO Zhenwei( 2092 )
Labeling certainty enhancement-oriented positive and unlabeled learning algorithm .....	HE Yulin, HE Peng, HUANG Zhexue, XIE Weicheng, PHILIPPE Fournier-Viger( 2101 )
Label noise adaptive learning algorithm based on meta-learning .....	QI Qiaoling, WANG Xiaoxiao, ZHANG Qianqian, WANG Peng, DONG Yongfeng( 2113 )
Federated learning algorithm for personalization and fairness .....	ZHANG Hongyang, ZHANG Shufen, GU Zheng( 2123 )
Domain adaptive semantic segmentation based on masking enhanced self-training .....	FENG Bo, YU Haizheng, BIAN Hong( 2132 )
Fine-tuned and filtered oversampling method based on agglomerative hierarchical clustering .....	GU Zheng, CHEN Xuebin, ZHANG Hongyang, LI Yuxin( 2138 )
Deep semi-supervised text clustering with intentional regularization .....	XU Le, HUANG Ruizhang, BAI Ruina, QIN Yongbin( 2145 )
Semi-EM algorithm for solving Gamma mixture model of multimodal probability distribution .....	CHEN Jiaqi, HE Yulin, CHENG Yingchao, HUANG Zhexue( 2153 )
Object detection uncertainty measurement scheme based on guide to the expression of uncertainty in measurement .....	JIANG Peiyu, WANG Yongguang, REN Yating, LI Shuochen, TAN Huobin( 2162 )

### Artificial intelligence

Research review on explainable artificial intelligence in internet of things applications .....	ZHAO Xiaoyang, XU Xinzhen, LI Zhongnian( 2169 )
Multi-scale decorrelation graph convolutional network model .....	CHEN Danyang, ZHANG Changlun( 2180 )
Multi-scale sparse graph guided vision graph neural networks .....	ZHANG Zimo, ZHAO Xuezhuan( 2188 )
Open set recognition method with open generation and feature optimization .....	XIANG Erkang, HUANG Rong, DONG Aihua( 2195 )
Gradient-discriminative and feature norm-driven open-world object detection .....	ZHANG Yingjun, YAN Weiwei, XIE Binhong, ZHANG Rui, LU Wangdong( 2203 )
Multi-view knowledge-aware and interactive distillation recommendation algorithm .....	ZHANG Yuelan, SU Jing, ZHAO Hangyu, YANG Baili( 2211 )
Zero-shot dialogue state tracking domain transfer model based on semantic prefix-tuning .....	SUN Yuyang, ZHANG Minjie, HU Jie( 2221 )
Nested named entity recognition combined with boundary generation by multi-objective learning .....	XU Zhangjie, CHEN Yanping, HU Ying, HUANG Ruizhang, QIN Yongbin( 2229 )
Multimodal sentiment analysis model with cross-modal text information enhancement .....	WANG Yihan, LU Chong, CHEN Zhongyuan( 2237 )

## Data science and technology

- Batch process quality prediction model using improved time-domain convolutional network with multi-head self-attention mechanism  
..... ZHAO Xiaoqiang, LIU Yongyong, HUI Yongyong, LIU Kai( 2245 )
- Real-time prediction of traffic status based on clustering multivariate time series model  
..... GUO Shujun, REN Weijun, CHEN Qianqian, YOU Guangfei( 2253 )
- Time series forecasting model based on segmented attention mechanism  
..... WANG Huibin, HU Zhan 'ao, HU Jie, XU Yuanwei, WEN Bo( 2262 )
- Granular-ball prototypical network for few-shot image classification ··· BAI Ruifeng, GOU Guanglei, WEN Lang, MIAO Wanyu( 2269 )

## Cyber security

- Cloud-based conditional broadcast proxy re-encryption scheme ..... LI Binhan, DENG Lunzhi, LIU Huan( 2278 )
- Large-scale IoT binary component identification based on named entity recognition  
..... ZHANG Lixiao, MA Yao, YANG Yuli, YU Dan, CHEN Yongle( 2288 )
- Source code vulnerability detection method based on Transformer-GCN..... LIANG Chen, WANG Yisen, WEI Qiang, DU Jiang( 2296 )

## Advanced computing

- Dung beetle optimizer algorithm with restricted reverse learning and Cauchy-Gauss variation  
..... YANG Zhilong, ZOU Dexuan, LI Can, SHAO Yingying, MA Lejie( 2304 )
- Fast and fully autonomous exploration method for multi-UAV in large-scale complex environments  
..... LI Shu, LIU Guoqing, LI Siyuan, QIN Yaochang( 2317 )

## Multimedia computing and computer simulation

- Pedestrian detection algorithm based on multi-view information ····· LIU Haoyu, KONG Pengwei, WANG Yaoli, CHANG Qing( 2325 )
- Helmet wearing detection algorithm for complex scenarios based on cross-layer multi-scale feature fusion  
..... CHEN Liang, WANG Xuan, LEI Kun( 2333 )
- Small target detection model for UAV aerial photography based on improved YOLOv8  
..... FAN Bogan, WANG Shuqing, CHEN Kaiyuan( 2342 )
- Multi-object tracking algorithm for construction machinery in transmission line scenarios  
..... YU Pingping, YAN Yuting, TANG Xinliang, SU He, WANG Jianchao( 2351 )
- Robustness optimization method of visual model for intelligent inspection  
..... WANG Zhenzhou, GUO Fangfang, SU Jingfang, SU He, WANG Jianchao( 2361 )
- Dual-branch distribution consistency contrastive learning model for hard negative sample identification in chest X-rays  
..... XIE Jin, CHU Surong, QIANG Yan, ZHAO Juanjuan, ZHANG Hua, GAO Yong( 2369 )
- Neural architecture search for multi-tissue segmentation using convolutional and transformer-based networks in glioma segmentation  
..... TAO Yongpeng, BAI Shiqi, ZHOU Zhengwen( 2378 )