

# 计算机科学

## (JISUANJI KEXUE)

第 47 卷 第 11 期 2020 年 11 月

### 目 次

#### 智能移动身份认证

- |                                |               |
|--------------------------------|---------------|
| 1 车联网互信认证与安全通信综述               | 王春东 罗婉薇 莫秀良 等 |
| 10 面向边缘计算环境的密码技术研究综述           | 程庆丰 李钰汀 李兴华 等 |
| 19 基于上采样单分类的智能手机手势密码隐式身份认证机制   | 姚沐言 陶 丹       |
| 25 基于 WiFi 信号的轻量级步态识别模型 LWID   | 周志一 宋 冰 段鹏松 等 |
| 32 基于 FPGA 集群的 Office 口令恢复优化实现 | 李 斌 周清雷 斯雪明 等 |
| 42 口令 Zipf 分布对相关安全协议的影响分析      | 董奇颖 单 轩 贾春福   |
| 48 基于攻击算法的海量真实用户口令数据分析         | 谢志杰 张 旻 李振汉 等 |
| 55 车联网环境下基于区块链技术的条件隐私消息认证方案    | 熊 玲 李发根 刘志才   |
| 60 云环境下基于代理盲签名的高效异构跨域认证方案      | 江泽涛 徐娟娟       |
| 68 多重 PKG 环境中高效的身份基认证密钥协商协议    | 秦艳琳 吴晓平 胡 卫   |

#### 数据库&大数据&数据科学

- |                                |               |
|--------------------------------|---------------|
| 73 基于时序推理的分层会话感知推荐模型           | 罗鹏宇 吴 乐 吕 扬 等 |
| 80 基于 Huber 损失的非负矩阵分解算法        | 王丽星 曹付元       |
| 88 基于量子进化算法的非平衡数据混合采样算法        | 杨 浩 陈红梅       |
| 95 基于 SL-LDA 的领域标签获取方法         | 王 胜 张仰森 张 雯 等 |
| 101 融入深度自编码器与网络表示学习的社交网络信息推荐模型 | 顾秋阳 琚春华 吴功兴   |
| 113 大数据智能检索与大数据区块元智能分离         | 郝秀梅 史开泉       |
| 122 流式数据处理的动态自适应缓存策略研究         | 王绪亮 聂铁铮 唐欣然 等 |

#### 计算机图形学&多媒体

- |                                   |               |
|-----------------------------------|---------------|
| 128 二维人体姿态估计研究进展                  | 冯晓月 宋 杰       |
| 137 基于改进 Delaunay 三角剖分的水下地形三维重建算法 | 陈士杰 张森林 刘妹琴 等 |
| 142 基于文本三区域分割的场景文本检测方法            | 李 煌 王晓莉 项欣光   |
| 148 基于深度学习的舌象特征分析                 | 李渊彤 罗裕升 朱珍民   |
| 159 基于 CPNet 的相对图像质量评估            | 李凯文 徐 琳 陈 强   |
| 168 基于网格搜索的特定类别图像去噪算法             | 曹义亲 谢舒慧       |
| 174 基于空洞卷积鉴别器的语义分割迁移算法            | 杨培健 吴晓富 张索非 等 |

- |                              |              |
|------------------------------|--------------|
| 179 基于多尺度反卷积深度学习的显著性检测       | 温 静 李雨萌      |
| 186 卷积神经网络低层特征辅助的图像实例分割方法    | 樊 玮 刘 挺 黄 睿等 |
| 192 一种基于显式 SURF 特征保留的图像重定向算法 | 赵 亮 彭宏京 杜振龙  |
| 199 基于注意力模型的手绘图像检索方法         | 李宗民 李思远 刘玉杰等 |
| 205 基于单目视觉的小目标行人检测与测距研究      | 黄同愿 杨雪姣 向国徽等 |

## 人工智能

- |                                     |              |
|-------------------------------------|--------------|
| 212 LAC-DGLU:基于 CNN 和注意力机制的命名实体识别模型 | 赵 丰 黄 健 张中杰  |
| 220 基于人工势场法的多机器人协同避障                | 陈骏岭 秦小麟 李星罗等 |
| 226 视觉问答中问题处理算法研究                   | 徐 胜 祝永新      |
| 231 结合三元组重要性的知识图谱补全模型               | 李忠文 丁 焯 花忠云等 |
| 237 企业风险知识图谱的构建及应用                  | 陈晓军 向 阳      |
| 244 基于信息交互增强的事件时序关系分类方法             | 周新宇 李培峰      |
| 250 基于视觉语义联合嵌入和注意力机制的情感预测           | 蓝亦伦 孟 敏 武继刚  |
| 255 一种股票市场的深度学习复合预测模型               | 张永安 颜斌斌      |
| 268 LFNDIT:从不确定状态变换学习布尔网络           | 黄 羿 孔世明 王以松等 |
| 275 一种基于语义相似性的情感分类方法                | 马晓慧 贾君枝 周湘贞等 |
| 280 一种基于蚁群的电动汽车充电调度优化方法             | 周欣悦 钱丽萍 黄玉蘋等 |

## 计算机网络

- |                               |              |
|-------------------------------|--------------|
| 286 基于 M/M/1 排队模型的网络服务尾延迟分析   | 郭子亭 张文力 陈明宇  |
| 294 路网上基于时空锚点的移动对象群体和个体运动监测方法 | 韩京宇 许梦婕 朱 曼  |
| 304 基于遗传算法的声场重构测量优化方法         | 许 锋 孙 洁 刘世杰  |
| 310 面向物联网的时空数据处理算法设计          | 徐 鹤 吴 昊 李 鹏  |
| 316 基于强化学习的无线可充电传感网移动充电路径优化   | 张 昊 管昕洁 白光伟  |
| 322 MANET 中基于滑动窗口的网络编码协作算法    | 宋 莺 钟 欣 孙宝林等 |
| 327 NWI:基于 CSI 的非视距信号识别方法     | 田春元 余 江 常 俊等 |

# COMPUTER SCIENCE

Vol. 47 No. 11 Nov. 2020

## CONTENTS

### Intelligent Mobile Authentication

- 1 Survey on Mutual Trust Authentication and Secure Communication of Internet of Vehicles  
WANG Chun-dong et al.
- 10 Research on Application of Cryptography Technology for Edge Computing Environment  
CHENG Qing-feng et al.
- 19 Implicit Authentication Mechanism of Pattern Unlock Based on Over-sampling and One-class  
Classification for Smartphones  
YAO Mu-yan et al.
- 25 LWID: Lightweight Gait Recognition Model Based on WiFi Signals  
ZHOU Zhi-yi et al.
- 32 Optimized Implementation of Office Password Recovery Based on FPGA Cluster  
LI Bin et al.
- 42 Impact of Zipf's Law on Password-related Security Protocols  
DONG Qi-ying et al.
- 48 Analysis of Large-scale Real User Password Data Based on Cracking Algorithms  
XIE Zhi-jie et al.
- 55 Conditional Privacy-preserving Authentication Scheme Based on Blockchain for Vehicular  
Ad Hoc Networks  
XIONG Ling et al.
- 60 Efficient Heterogeneous Cross-domain Authentication Scheme Based on Proxy Blind Signature  
in Cloud Environment  
JIANG Ze-tao et al.
- 68 Efficient Identity-based Authenticated Key Agreement Protocol with Multiple Private Key Generators  
QIN Yan-lin et al.

### Database & Big Data & Data Science

- 73 Temporal Reasoning Based Hierarchical Session Perception Recommendation Model  
LUO Peng-yu et al.
- 80 Huber Loss Based Nonnegative Matrix Factorization Algorithm  
WANG Li-xing et al.
- 88 Mixed-sampling Method for Imbalanced Data Based on Quantum Evolutionary Algorithm  
YANG Hao et al.
- 95 Domain Label Acquisition Method Based on SL-LDA Model  
WANG Sheng et al.
- 101 Social Network Information Recommendation Model Combining Deep Autoencoder and  
Network Representation Learning  
GU Qiu-yang et al.
- 113 Big Data Intelligent Retrieval and Big Data Block Element Intelligence Separation  
HAO Xiu-mei et al.
- 122 Study on Dynamic Adaptive Caching Strategy for Streaming Data Processing  
WANG Xu-liang et al.

### Computer Graphics & Multimedia

- 128 Research Advance on 2D Human Pose Estimation  
FENG Xiao-yue et al.
- 137 Underwater Terrain Three-dimensional Reconstruction Algorithm Based on Improved  
Delaunay Triangulation  
CHEN Shi-jie et al.
- 142 Scene Text Detection Based on Triple Segmentation  
LI Huang et al.
- 148 Tongue Image Analysis in Traditional Chinese Medicine Based on Deep Learning  
LI Yuan-tong et al.
- 159 Relative Image Quality Assessment Based on CPNet  
LI Kai-wen et al.
- 168 Category-specific Image Denoising Algorithm Based on Grid Search  
CAO Yi-qin et al.

- 174 Semantic Segmentation Transfer Algorithm Based on Atrous Convolution Discriminator YANG Pei-jian et al.
- 179 Salient Object Detection Based on Multi-scale Deconvolution Deep Learning WEN Jing et al.
- 186 Low-level CNN Feature Aided Image Instance Segmentation FAN Wei et al.
- 192 Content-aware Image Retargeting Algorithm Based on Explicit SURF Feature Preservation ZHAO Liang et al.
- 199 Sketch-based Image Retrieval Based on Attention Model LI Zong-min et al.
- 205 Study on Small Target Pedestrian Detection and Ranging Based on Monocular Vision HUANG Tong-yuang et al.

## Artificial Intelligence

- 212 LAC-DGLU; Named Entity Recognition Model Based on CNN and Attention Mechanism ZHAO Feng et al.
- 220 Multi-robot Collaborative Obstacle Avoidance Based on Artificial Potential Field Method CHEN Jun-ling et al.
- 226 Study on Question Processing Algorithms in Visual Question Answering XU Sheng et al.
- 231 Knowledge Graph Completion Model Based on Triplet Importance Integration LI Zhong-wen et al.
- 237 Construction and Application of Enterprise Risk Knowledge Graph CHEN Xiao-jun et al.
- 244 Event Temporal Relation Classification Method Based on Information Interaction Enhancement ZHOU Xin-yu et al.
- 250 Visual Sentiment Prediction with Visual Semantic Embedding and Attention Mechanism LAN Yi-lun et al.
- 255 Deep Learning Hybrid Forecasting Model for Stock Market ZHANG Yong-an et al.
- 268 LFNDIT; Learning Boolean Networks from Nondeterministic Interpretation Transitions HUANG Yi et al.
- 275 Semantic Similarity-based Method for Sentiment Classification MA Xiao-hui et al.
- 280 Optimization Method of Electric Vehicles Charging Scheduling Based on Ant Colony ZHOU Xin-yue et al.

## Computer Network

- 286 Network Service Tail Latency Analysis Based on M/M/1 Queuing Model GUO Zi-ting et al.
- 294 Detecting Group-and-individual Movements of Moving Objects Based on Spatial-Temporal Anchors of Road-network HAN Jing-yu et al.
- 304 Sampling Optimization Method for Acoustic Field Reconstruction Based on Genetic Algorithm XU Feng et al.
- 310 Design of Temporal-spatial Data Processing Algorithm for IoT XU He et al.
- 316 Optimization of Mobile Charging Path of Wireless Rechargeable Sensor Networks Based on Reinforcement Learning ZHANG Hao et al.
- 322 Sliding Window-based Network Coding Cooperative Algorithm in MANET SONG Ying et al.
- 327 NWI; CSI Based Non-line-of-sight Signal Recognition Method TIAN Chun-yuan et al.