

EI数据库收录期刊
第42卷 第6期
Vol.42 No.6

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

电子与信息学报

JOURNAL OF ELECTRONICS & INFORMATION TECHNOLOGY

2020

6



中国科学院电子学研究所
国家自然科学基金委员会信息科学部

主办

科学出版社

电子与信息学报

DIANZI YU XINXI XUEBAO

第 42 卷 第 6 期

2020 年 6 月

目 次

生物计算机专题.....	专题主编:许进教授
DNA 数据存储	毛秀海, 李 凡, 左小磊 (1303)
DNA 计算与 DNA 纳米技术	王君珂, 印 珏, 牛人杰, 任少康, 晁 洁 (1313)
DNA 存储及其研究进展	许 鹏, 方 刚, 石晓龙, 刘文斌 (1326)
基于 DNA 和限制性核酸内切酶的基本逻辑门设计	柳 娟, 谢文彬, 汪改英, 汤敏丽 (1332)
基于个性化网络标志物的药物推荐方法研究	 刘文斌, 吴 倩, 杜玉改, 方 刚, 石晓龙, 许 鹏 (1340)
基于可变剪接紊乱的乳腺癌亚型预测分析	许 鹏, 王 兵, 方 刚, 石晓龙, 刘文斌 (1348)
基于 DNA 折纸基底的与非门计算模型	 殷志祥, 唐 震, 张 强, 崔建中, 杨 静, 王日晟, 赵寿为, 张居丽 (1355)
基于多目标进化策略算法的 DNA 核酸编码设计	张 凯, 陈 彬, 许志伟 (1365)
基于 DNA 适配体的荧光生物传感器	董亚非, 胡文晓, 钱梦瑶, 王 越 (1374)
基于变步长约瑟夫遍历和 DNA 动态编码的图像加密算法	牛 莹, 张勋才 (1383)
基于中值的 JS 散度可变剪接差异分析研究	刘文斌, 王 兵, 方 刚, 石晓龙, 许 鹏 (1392)
基于 DNA 链置换的三级联组合分子逻辑电路设计	孙军伟, 李 智, 王延峰 (1401)
基于氧化石墨烯与金属离子的逻辑模型设计与可控性验证	王璐慧, 王 越, 钱梦瑶, 董亚非 (1410)
基于药物互作网络的协同与拮抗预测研究	刘文斌, 陈 杰, 方 刚, 石晓龙, 许 鹏 (1420)
论 文	
异构云无线接入网架构下面向混合能源供应的动态资源分配及能源管理算法	 陈前斌, 谭 颀, 魏延南, 贺兰钦, 唐 伦 (1428)
Lempel-Ziv-Welch 压缩数据的误码纠正	王 刚, 靳彦青, 彭 华, 张光伟 (1436)
车联网中整合移动边缘计算与内容分发网络的移动性管理策略	 张海波, 程 妍, 刘开健, 贺晓帆 (1444)
基于随机森林的流处理检查点性能预测	褚 征, 于 炯 (1452)
虚拟网络切片中的在线异常检测算法研究	王威丽, 陈前斌, 唐 伦 (1460)
基于深度强化学习的异构云无线接入网自适应无线资源分配算法	 陈前斌, 管令进, 李子煜, 王兆堃, 杨 恒, 唐 伦 (1468)
面向可靠性的 5G 网络切片重构及映射算法	赵国繁, 唐 伦, 胡彦娟, 赵培培, 陈前斌 (1478)
基于特征通道和空间联合注意机制的遮挡行人检测方法	陈 勇, 刘 曦, 刘焕淋 (1486)
基于状态视图的高效 Hilbert 编码和解码算法	贾连印, 陈明鲜, 李孟娟, 游进国, 丁家满 (1494)
基于 Dijkstra-ACO 混合算法的应急疏散路径动态规划	 曹祥红, 李欣妍, 魏晓鸽, 李 森, 黄梦溪, 李栋禄 (1502)

基于 Hilbert 填充曲线的海洋无线传感网源节点位置隐私保护方法	
..... 李攀攀, 谢正霞, 周志刚, 乐光学, 郑仕链, 杨小牛	(1510)
轻量级分组密码 PUFFIN 的差分故障攻击	袁庆军, 张勋成, 高 杨, 王永娟 (1519)
一种面向连接的快速多维包分类算法	张 斌, 吴浩明 (1526)
多方参与高效撤销组成员的共享数据审计方案	田俊峰, 井 宣 (1534)
机载多通道 SAR 运动目标方位向速度和法向速度联合估计算法	
..... 姜 文, 牛 杰, 吴一戎, 梁兴东	(1542)
风云三号(D)气象卫星微波湿温度计系统建模和仿真	段永强, 王振占, 张升伟 (1549)

JOURNAL OF ELECTRONICS & INFORMATION TECHNOLOGY

Vol.42 No.6 June 2020

CONTENTS

Special Topic on Biological Computer	Leading Editor: XU Jin
DNA Data Storage	MAO Xiuhai, LI Fan, ZUO Xiaolei (1303)
DNA Computing and DNA Nanotechnology	WANG Junke, YIN Jue, NIU Renjie, REN Shaokang, CHAO Jie (1313)
DNA Storage and Its Research Progress	XU Peng, FANG Gang, SHI Xiaolong, LIU Wenbin (1326)
Basic Logic Gates Design Based on DNA and Restriction Endonuclease	 LIU Juan, XIE Wenbin, WANG Gaiping, TANG Minli (1332)
Drug Recommendation Based on Individual Specific Biomarkers	 LIU Wenbin, WU Qian, DU Yugai, FANG Gang, SHI Xiaolong, XU Peng (1340)
Analysis of Breast Cancer Subtypes Prediction Based on Alternative Splicing Disorders	 XU Peng, WANG Bing, FANG Gang, SHI Xiaolong, LIU Wenbin (1348)
NAND Gate Computational Model Based on the DNA Origami Template	 YIN Zhixiang, TANG Zhen, ZHANG Qiang, CUI Jianhong, YANG Jing, WANG Risheng, ZHAO Shouwei, ZHANG Juli (1355)
A Multiobjective Evolution Strategy Algorithm for DNA Sequence Design	 ZHANG Kai, Chen Bin, Xu Zhiwei (1365)
DNA Aptamer-based Fluorescence Biosensor	DONG Yafei, HU Wenxiao, QIAN Mengyao, WANG Yue (1374)
Image Encryption Algorithm of Based on Variable Step Length Josephus Traversing and DNA Dynamic Coding	 NIU Ying, ZHANG Xuncai (1383)
Study on the Differential Analysis of Alternative Splicing Based on the Median Value Jensen-Shannon Divergence	 LIU Wenbin, WANG Bing, FANG Gang, SHI Xiaolong, XU Peng (1392)
Design of Three-cascade Combinatorial Molecular Logic Circuit Based on DNA Strand Displacement	 SUN Junwei, LI Zhi, WANG Yanfeng (1401)
Logical Model Design and Controllability Verification Based on Graphene Oxide and Metal Ions	 WANG Luhui, WANG Yue, QIAN Mengyao, DONG Yafei (1410)
Prediction of Drug Synergy and Antagonism Based on Drug-Drug Interaction Network	 LIU Wenbin, CHEN Jie, FANG Gang, SHI Xiaolong, XU Peng (1420)
Papers	
Dynamic Resource Allocation and Energy Management Algorithm for Hybrid Energy Supply in Heterogeneous Cloud Radio Access Networks	CHEN Qianbin, TAN Qi, WEI Yannan, HE Lanqin, TANG Lun (1428)
Error Correction of Lempel-Ziv-Welch Compressed Data	 WANG Gang, JIN Yanqing, PENG Hua, ZHANG Guangwei (1436)
The Mobility Management Strategies by Integrating Mobile Edge Computing and CDN in Vehicular Networks ...	 ZHANG Haibo, CHENG Yan, LIU Kaijian, HE Xiaofan (1444)
Performance Prediction Based on Random Forest for the Stream Processing Checkpoint	 CHU Zheng, YU Jiong (1452)
Online Anomaly Detection for Virtualized Network Slicing	WANG Weili, CHEN Qianbin, TANG Lun (1460)
Deep Reinforcement Learning-based Adaptive Wireless Resource Allocation Algorithm for Heterogeneous Cloud Wireless Access Network	CHEN Qianbin, GUANG Lingjin, LI Ziyu, WANG Zhaokun, YANG Heng, TANG Lun (1468)
A Reliability-aware 5G Network Slice Reconfiguration and Embedding Algorithm	 ZHAO Guofan, TANG Lun, HU Yanjuan, ZHAO Peipei, CHEN Qianbin (1478)
(To be continued on inside back cover)	

(Continued)

Occluded Pedestrian Detection Based on Joint Attention Mechanism of Channel-wise and Spatial Information	
.....	<i>CHEN Yong, LIU Xi, LIU Huanlin</i> (1486)
State View Based Efficient Hilbert Encoding and Decoding Algorithms	
.....	<i>JIA Lianyin, CHEN Mingxian, LI Mengjuan, YOU Jinguo, DING Jiaman</i> (1494)
Dynamic Programming of Emergency Evacuation Path Based on Dijkstra-ACO Hybrid Algorithm	
.....	<i>CAO Xianghong, LI Xinyan, WEI Xiaoge, LI Sen, HUANG Mengxi, LI Donglu</i> (1502)
A Source-location Privacy Preservation Method Based on Hilbert-filling-curve Routing Protocol in Marine Wireless Sensor Networks	
	<i>LI Panpan, XIE Zhengxia, ZHOU Zhigang, YUE Guangxue, ZHENG Shilian, YANG Xiaoniu</i> (1510)
Differential Fault Attack on the Lightweight Block Cipher PUFFIN	
.....	<i>YUAN Qingjun, ZHANG Xuncheng, GAO Yang, WANG Yongjuan</i> (1519)
A Connection-oriented Fast Multi-dimensional Packet Classification Algorithm	
.....	<i>ZHANG Bin, WU Haoming</i> (1526)
Shared Data Auditing Scheme for Efficient Revocation of Group Members via Multi-participation	
.....	<i>TIAN Junfeng, JING Xuan</i> (1534)
Joint Estimation Algorithm for Azimuth Velocity and Normal Velocity of Moving Targets in Airborne Multi-channel SAR	
.....	<i>JIANG Wen, NIU Jie, WU Yirong, LIANG Xingdong</i> (1542)
Modeling and Simulating of Microwave Humidity and Temperature Sounder Onboard the FY-3(D) Satellite	
.....	<i>DUAN Yongqiang, WANG Zhenzhan, ZHANG Shengwei</i> (1549)