

SCIENTIA SINICA Informationis



Q K 2 1 2 8 9 0 3

中国科学 信息科学

第51卷 第7期 2021年7月

■ www.scichina.com ■ infocn.scichina.com

从传统渲染到可微渲染：基本原理、方法和应用

叶子鹏, 夏雯宇, 孙志尧, 易冉, 余旻婧, 刘永进

中国科学院 主办
国家自然科学基金委员会



目 次

评述

从传统渲染到可微渲染: 基本原理、方法和应用1043

叶子鹏, 夏雯宇, 孙志尧, 易冉, 余旻婧, 刘永进

论文

复杂担保网络中传染路径的风险评估1068

程大伟, 牛志彬, 刘新海, 张丽清

互联网图像驱动的语义分割自主学习1084

侯淇彬, 韩凌昊, 刘姜江, 程明明

基于权限的移动应用程序隐私风险量化1100

朱敏杰, 叶青青, 孟小峰, 杨鑫

Network-splitter: 一种基于重叠社区的网络特征提取算法及其在链路预测中的应用1116

廖好, 黄晓敏, 吴子强, 周明洋, 毛睿, 汪秉宏

基于多目标强化学习的社区隐藏框架1131

陶海成, 卜湛, 曹杰

虚拟未建模动态补偿与数据驱动的非线性广义预测控制1146

张亚军, 牛宏, 陶金梅, 李旭生

5G 毫米波大规模 MIMO 阵列失效特性分析1156

蒯乐, 周后型, 陈继新, 洪伟

基于信号分组优化的椭圆球面波多载波调制解调方法1168

王红星, 陆发平, 刘传辉, 康家方

一种提高全极化相控阵雷达极化测量精度的方法1183

王占领, 殷加鹏, 庞晨, 李永祯, 王雪松

面向数据流发布的数据自适应隐私保护机制1199

王腾, 杨新宇, 任雪斌, 赵俊

Contents

REVIEW

From traditional rendering to differentiable rendering: theories, methods and applications 1043

Zipeng YE, Wenyu XIA, Zhiyao SUN, Ran YI, Minjing YU & Yong-Jin LIU

RESEARCH PAPER

Risk assessment for contagion path in complex loan network 1068

Dawei CHENG, Zhibin NIU, Xinhai LIU & Liqing ZHANG

Autonomous learning of semantic segmentation from Internet images 1084

Qibin HOU, Ling-Hao HAN, Jiang-Jiang LIU & Ming-Ming CHENG

Privacy risk quantification of mobile application based on requested permissions 1100

Minjie ZHU, Qingqing YE, Xiaofeng MENG & Xin YANG

Network-splitter: a network feature extraction algorithm based on overlapping community and its application in link prediction 1116

Hao LIAO, Xiaomin HUANG, Ziqiang WU, Mingyang ZHOU, Rui MAO & Binghong WANG

A multi-objective reinforcement learning framework for community deception 1131

Haicheng TAO, Zhan BU & Jie CAO

Virtual unmodeled dynamic compensation and data-driven nonlinear generalized predictive control 1146

Yajun ZHANG, Hong NIU, Jinmei TAO & Xusheng LI

Analysis on the characteristic of millimeter-wave 5G massive MIMO array with failed elements 1156

Le KUAI, Houxing ZHOU, Jixin CHEN & Wei HONG

Multi-carrier modulation scheme based on prolate spheroidal wave functions with signal grouping optimization 1168

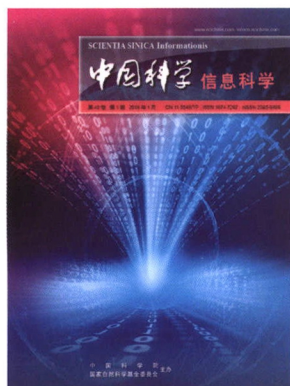
Hongxing WANG, Faping LU, Chuanhui LIU & Jiafang KANG

An approach to improve the polarization measurement accuracy of fully polarimetric phased array radar 1183

Zhanling WANG, Jiapeng YIN, Chen PANG, Yongzhen LI & Xuesong WANG

Data-adaptive privacy-preserving mechanism for data stream publishing in real-time 1199

Teng WANG, Xinyu YANG, Xuebin REN & Jun ZHAO



CN: 11-5846/TP

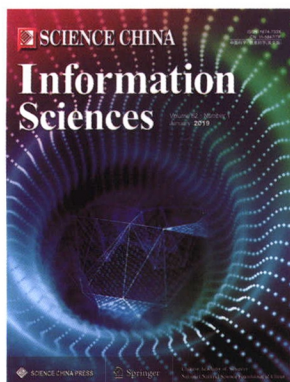
- 主管单位: 中国科学院
- 主办单位: 中国科学院, 国家自然科学基金委员会
- 收录语种: 中文
- 主编: 梅宏

中国科学: 信息科学 (月刊) SCIENTIA SINICA Informationis

简介: 力求刊载信息科学领域最高学术水平的中文文章, 及时报道计算机科学与技术、控制科学与控制工程、通信与信息系统、微电子与固体电子学等领域基础与应用研究方面的原创性成果. 推动信息科学技术发展, 搭建理论与技术应用的桥梁, 促进与各学科、各行业的交叉融合. 月刊, 每月20日出版. 中、英文版是相对独立的两个刊物.

栏目: 评述、论文、观点与争鸣、快报、学术介绍等

检索: 被《中文核心期刊要目总览》、《中国科学引文数据库》、《中国期刊全文数据库》、《中国科技论文与引文数据库》、《中国数字化期刊群》、SCOPUS等收录.



CN: 11-5847/TP

- Supervised by: CAS
- Sponsored by: CAS, NSFC
- Language: English
- Editor-in-Chief: MEI Hong

SCIENCE CHINA Information Sciences (Monthly)

SCIENCE CHINA Information Sciences (Sci China Inf Sci), cosponsored by the Chinese Academy of Sciences and the National Natural Science Foundation of China, and published by Science China Press, is committed to publishing high-quality, original results of both basic and applied research in all areas of information sciences, including computer science and technology; control science and engineering; information and communication engineering; microelectronics and solid state electronics, etc. Sci China Inf Sci is published monthly in both print and electronic forms.

Papers published in Sci China Inf Sci include: Review, Research Paper, Perspective, MOOP, Letter, etc.

It is indexed by Science Citation Index Expanded (SCIE), Engineering Index (EI), Journal Citation Reports/Science Edition (JCR), Academic OneFile, Astrophysics Data System (ADS), CSA, Cabells, Current Contents/Engineering, Computing and Technology, DBLP, Digital Mathematics Registry, Earthquake Engineering Abstracts, Engineered Materials Abstracts, Gale, Google, INSPEC, Mathematical Reviews, OCLC, ProQuest, SCOPUS, Summon by Serial Solutions, VINITI.



《中国科学: 信息科学》编辑部
地址: 北京东黄城根北街16号 (100717)
电话: 010-64015683 传真: 010-64016350
E-mail: informatics@scichina.org



《中国科学》杂志社
SCIENCE CHINA PRESS

ISSN 1674-7267



9 771674 726213