
Sensors：2001-2026最具影响力论文

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Sensors：2001-2026最具影响力论文。 期刊名：Sensors

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Sensors 创刊于2001年，是一个国际性、经过同行评审的开放获取期刊，专注于传感器科学技术领域的研究。在过去的25年里，传感技术取得了显著的进展——从基础传感器设计发展到如今在物联网和人工智能驱动系统中广泛应用智能传感技术。为纪念这一重要发展节点，我们从期刊海量已发表文献中精选推出专题文集，收录25篇代表性研究论文与25篇综述文章。该批文章由主编及编委会团队遴选，遴选标准为研究具备突出影响力，且在多学科传感器研究的关键发展节点中起到重要奠基作用。

(一) 传感原理、材料与器件

>研究论文

1. Electrochemical Impedance Spectroscopy (EIS): Principles, Construction, and Biosensing Applications

电化学阻抗谱法：原理、实现方式及生物传感应用

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3. Metal Oxide Gas Sensors: Sensitivity and Influencing Factors

金属氧化物气体传感器：灵敏度及影响因素

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(二) 可穿戴设备、生理传感器与生物医学传感器

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10. Machine Learning Methods for Classifying Human Physical Activity from On-Body Accelerometers

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13. A Validation of Six Wearable Devices for Estimating Sleep, Heart Rate and Heart Rate Variability in Healthy Adults

六种用于评估健康成人睡眠、心率及心率变异性的可穿戴设备的验证研究

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脑电图分析中的转换技术：关于运动想象、癫痫发作及情绪分类中各种架构与应用的综述

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可穿戴与柔性传感器设备：设计、制造方法及应用领域的最新进展

Shahid Muhammad Ali, Sima Noghianian, Zia Ullah Khan, Saeed Alzahrani, Saad Alharbi, Mohammad Alhartomi, and Ruwaybih Alsulami

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（三）传感器融合与计算机视觉

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面向室内地图绘制的Kinect深度数据精度与分辨率研究

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Leap Motion 控制器的准确性和鲁棒性分析

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GelSight：用于几何形貌与接触力估算的高分辨率机器人触觉传感器

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比较 YOLOv3、YOLOv4 和 YOLOv5 在故障无人机自主着陆检测中的应用

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Sensor and Sensor Fusion Technology in Autonomous Vehicles: A Review

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(四) 工业与结构状态的监测与故障诊断

>研究论文

27. 非侵入式负载监测方法在独立能源感知中的应用：综述

Non-Intrusive Load Monitoring Approaches for Disaggregated Energy Sensing: A Survey

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28. 学习如何使用卷积双向 LSTM 网络来监控机器健康状况

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29. 一种面向原始振动信号、具有良好抗噪与域自适应能力的故障诊断深度学习新模型

A New Deep Learning Model for Fault Diagnosis with Good Anti-Noise and Domain Adaptation Ability on Raw Vibration Signals

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30. 无损检测与结构健康监测先进传感技术的系统评估

A Systematic Review of Advanced Sensor Technologies for Non-Destructive Testing and Structural Health Monitoring

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Additive Manufacturing: A Comprehensive Review

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33. 结构健康监测的传感技术：关于性能标准与新一代技术的先进综述

Sensing Techniques for Structural Health Monitoring: A State-of-the-Art Review on Performance Criteria and New-Generation Technologies

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(五) 农业与遥感技术

> 研究论文

34. 增强型植被指数 (EVI) 和标准化差异植被指数 (NDVI) 对地形效应的敏感性：以高密度蒲葵林为例的研究

Sensitivity of the Enhanced Vegetation Index (EVI) and Normalized Difference Vegetation Index (NDVI) to Topographic Effects: A Case Study in High-density Cypress Forest

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35. DeepFruits：一种利用深度神经网络进行水果识别的系统

DeepFruits: A Fruit Detection System Using Deep Neural Networks

Inkyu Sa, Zongyuan Ge, Feras Dayoub, Ben Upcroft, Tristan Perez and Chris McCool

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36. 利用遥感技术估算水质参数的综合评估

A Comprehensive Review on Water Quality Parameters Estimation Using Remote Sensing Techniques

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38. 关于在智能农业中应用多模态数据的 CNN 技术综述

A Review of CNN Applications in Smart Agriculture Using Multimodal Data

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39. 物联网与人工智能在农业领域的应用：现在是实施智能传感技术的好时机——一项关于智能传感技术的系统综述

The IoT and AI in Agriculture: The Time Is Now—A Systematic Review of Smart Sensing Technologies

Tymoteusz Miller, Grzegorz Mikiciuk, Irmina Durlik, Małgorzata Mikiciuk, Adrianna Lobodzińska and Marek Śnieg

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（六）无线通信与物联网传感器网络

> 研究论文

40. 蓝牙低功耗技术概述与评估：一种新兴的低功耗无线技术

Overview and Evaluation of Bluetooth Low Energy: An Emerging Low-Power Wireless Technology

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A Study of LoRa: Long Range Low Power Networks for the Internet of Things

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Learning Traffic as Images: A Deep Convolutional Neural Network for Large-Scale Transportation Network Speed Prediction

Xiaolei Ma, Zhuang Dai, Zhengbing He, Jihui Ma, Yong Wang and Yunpeng Wang

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43. CICIoT2023：一种用于物联网环境大规模攻击的实时数据集与基准

CICIoT2023: A Real-Time Dataset and Benchmark for Large-Scale Attacks in IoT Environment

Euclides Carlos Pinto Neto, Sajjad Dadkhah, Raphael Ferreira, Alireza Zohourian, Rongxing Lu and Ali A. Ghorbani

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（七）基于人工智能的感知与数据分析技术

>研究论文

44. 一种基于深度学习的鲁棒番茄病害与害虫实时检测器

A Robust Deep-Learning-Based Detector for Real-Time Tomato Plant Diseases and Pests Recognition

Alvaro Fuentes, Sook Yoon, Sang Cheol Kim and Dong Sun Park

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45. Sentinel-2影像土地覆盖分类中随机森林、k-NN与SVM分类器的性能比较

Comparison of Random Forest, k-Nearest Neighbor, and Support Vector Machine Classifiers for Land Cover Classification Using Sentinel-2 Imagery

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A Deep CNN-LSTM Model for Particulate Matter (PM2.5) Forecasting in Smart Cities

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47. UAV-YOLOv8：基于改进YOLOv8的无人机航拍小目标检测模型

UAV-YOLOv8: A Small-Object-Detection Model Based on Improved YOLOv8 for UAV Aerial Photography Scenarios

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48. PC-YOLO11s：用于小目标图像检测的轻量高效特征提取方法

PC-YOLO11s: A Lightweight and Effective Feature Extraction Method for Small Target Image Detection

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>综述论文

49. 可解释的人工智能技术在医疗领域的应用研究

Survey of Explainable AI Techniques in Healthcare

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50. 从传感器到数据智能：利用物联网、云计算和边缘计算技术结合人工智能技术

From Sensors to Data Intelligence: Leveraging IoT, Cloud, and Edge Computing with AI

Ilenia Ficili, Maurizio Giacobbe, Giuseppe Tricomi and Antonio Puliafito

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主编：Vittorio M. N. Passaro, Politecnico di Bari, Italy

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