

目 次

• 综述与评论 •

智能视频监控系统异常行为检测算法研究综述.....曾 婷,黄东军(1)

• 测试与故障诊断 •

机载任务设备控制模块自适应BIT检测电路设计.....张 晨,崔利军,李飞晟,陈秋丰,韩大全(7)

基于多维高斯贝叶斯算法在雷达故障信息诊断系统应用.....马景奕,李奕澄,金庆忠,杨 斌(11)

基于机器视觉的芯片引脚缺陷检测系统设计与实现.....杨 利,陈柳松,谢永超(16)

基于遥测数据分析的无人机故障诊断系统设计.....陈晓飞,贾 勇,韩 芳(21)

基于数据挖掘的发动机频率测试系统设计.....陈晓飞,贾 勇,秦健勇(26)

基于FPGA及RBF神经网络的电磁无损检测技术.....王丽霞,杨惠春(31)

基于EEMD-Treelet和高斯过程的起重机齿轮故障诊断.....李 勇,钱尼君,陈星斌,黄荔生,彭献永(36)

基于Cauchy模型的行人轮廓提取及目标检测.....唐艳凤,林俊强,马振丰(41)

基于SE-ResNeXt的滚动轴承故障诊断方法.....胡向东,梁 川(46)

基于无人机的超高压智能测试系统设计与应用.....贺 坤,李 琦,翟洪达,赵 伟,王维宇,程登永,田小波(52)

基于卷积神经网络的焊缝表面缺陷检测方法.....封雨鑫,邓宏贵,程 钰(56)

基于TDLAS的矿用激光一氧化碳检测系统的设计.....张立群(61)

融合模型基残差分析与数据驱动的气路故障诊断方法研究.....张 瑞,廖增步,耿 佳,宋志平,王净巍(67)

低温介质下电容液位测量系统的研究.....刘岳鹏,蔡 睿,敖春芳(74)

基于非线性压缩变换的某型航空发动机整机试车排故分析.....张 瑞,程传义,张云鹏,王诗彬,黄 海(79)

基于深度迁移自编码器的变工况下滚动轴承故障诊断方法.....苏靖涵,张 潇(85)

基于机器视觉的尺寸检测智能工位设计.....沈正福,汪惠芬,袁堂晓(91)

• 控制技术 •

基于反步滑模算法的无人机姿态鲁棒控制系统设计.....肖英楠,孙抒雨(95)

固冲发动机补燃室压强控制技术研究.....齐 鑫,胡大庆,张 格,何 颀(100)

分时电价下用户侧光储系统优化控制策略.....郑剑锋,李天伦,毛树人,孔鹏程,吴振裕(106)

基于自适应模糊免疫PID阀门定位器的设计.....马志航,虎恩典,毛 令,朱兆元,刘融宇(111)

基于LabVIEW的太阳能制冷监控系统设计.....谢 檬,令 灏,王鑫朋(117)

基于AT89C52单片机的搬运机器人控制系统设计.....龙晓莉,谢斌盛,陈新兵,李卫平(122)

基于OneNET云平台与物联网MQTT协议的智慧节能控制系统.....龙巧玲,牛德雄,林利云(127)

嵌入式智能家居座椅运动控制系统设计.....张恩政,李锡睿,李子文(131)

- 基于栈式降噪自编码器的发酵过程回归建模.....岳向阳,赵忠盖,刘飞(136)
- 基于大数据分析的雷达通信信号收发控制系统设计.....尤淳(140)
- 基于核相关滤波的无人机偏航角跟踪控制系统设计.....肖英楠(145)

• 军事装备测控技术 •

- 基于模拟目标的测量雷达实战化训练方法研究.....蒋立民,王成(149)
- 光电导弹校靶方法研究.....李庆波,樊瑞山,李芳,黄建雄,谢文龙(156)
- 基于北斗卫星通信定位的战斗机队形指挥控制系统设计.....秦明峰(161)

• 测试软件工程 •

- 运载火箭遥测参数起始电平自动判读软件设计与实现.....陈策,刘靓,吕长春,黄皓,尹禄高(166)
- 基于表面肌电信号的人机交互软件设计.....李建亮,王从庆,展文豪,曲思霖,张民(171)

• 设计与应用 •

- 民机运行支持数据湖设计与实现.....马驰(175)
- 基于LabVIEW的阶次分析系统设计与仿真.....沈官新,刘其和(180)
- 基于计算机技术在医院信息化管理系统设计.....张志彬(185)
- 无人机航拍图像中裸露地表的识别.....钟映春,谢林烽,郑海阳,罗志勇(190)
- 基于频率响应分析的机械液压装置建模方法研究.....黄学进,郑文华,余婷(197)
- 基于计算机视觉的手势识别康复系统研究与应用.....陈壮炼,林晓乐,陈银菊,黄秋莹,李超(203)
- 空间飞行器交会策略建模与仿真.....李文鑫,李旷代,王伟(208)
- 基于ZYNQ的全冗余高速箭地通信装置设计.....王有春,徐昕,谢芳,平佳伟,韩雨桐,王晓林,向四桂(213)
- 双余度核电DEH设计与马尔科夫模型分析.....牛其磊,张卫东(218)
- 边缘计算中改进ELM的高效入侵检测算法.....李忠成,高惠燕,张文祥(223)
- 伪标签半监督通信辐射源个体识别方法.....吕昊远,俞璐,陈璞(229)
- 基于旋转视觉的三维姿态重构方法及精度分析.....邝泳聪,董亦飞(235)
- 面向通信负载均衡的轨迹优化技术研究.....林青,黄玉蕾(243)

• 试验与评价技术 •

- MBSE模式下可靠性安全性测试性一体化建模与评估技术方法.....李娇,隆金波,彭文胜,敖亮(247)

• 智能仪器与传感技术 •

- 一种便携式微波峰值功率计的设计和实现.....杜炜,贺其元,张坚,马森(254)
- 基于增强现实的制造数据记录系统设计与实现.....孙卓见,李红卫,左康,赵飞,梅雪松(259)
- 基于开关矩阵的多通道信号切换设备研制.....龚靖傑,邓哲,王家乐,张永亮,张梦妍(264)
- 新一代载人航天器显示仪表的图形加速算法研究.....张庆熙,夏加高,李文新(269)

Contents

• Summary and Comment •

A Survey of Detection Algorithms for Abnormal Behaviors in Intelligent Video Surveillance System.....
.....ZENG Ting,HUANG Dongjun(1)

• Test and Fault Diagnosis •

Design of Adaptive BIT Detection Circuit for Airborne Mission Load Control Module.....
.....ZHANG Chen,CUI Lijun,LI Feisheng,CHEN Qiufeng,HAN Daquan(7)

Application of Multidimensional Gaussian Bayes Algorithm in Radar Fault Information Diagnosis System.....
.....MA Jingyi,LI Yicheng,JIN Qingzhong,YANG Bin(11)

Design and Implementation of Chip Pin Defect Detection System Based on Machine Vision.....
.....YANG Li,CHEN Liusong,XIE Yongchao(16)

Design of UAV Fault Diagnosis System Based on Telemetry Data Analysis.....
.....CHEN Xiaofei,JIA Yong,HAN Fang(21)

Design of Engine Frequency Test System Based on Data Mining.....CHEN Xiaofei,JIA Yong,QIN Jianyong(26)

Electromagnetic Nondestructive Testing Technology Based on FPGA and RBF Neural Network.....
.....WANG Lixia,YANG Huichun(31)

Fault Diagnosis of Crane Gear Using EEMD-Trelet and Gaussian Process.....
.....LI Yong,QIAN Nijun,CHEN Xingbin,HUANG Lisheng,PENG Xianyong(36)

Pedestrian Profile Extraction and Target Detection Based on Cauchy model.....
.....TANG Yanfeng,LIN Junqiang,MA Zhenfeng(41)

Fault Diagnosis Method of Rolling Bearing Based on SE-ResNeXt.....HU Xiangdong,LIANG Chuan(46)

Design and Application of Ultra High Voltage Intelligent Test System Based on Unmanned Aerial Vehicle.....
.....HE Kun,LI Qi,ZHAI Hongda,ZHAO Wei,WANG Weiyu,CHENG Dengyong,TIAN Xiaobo(52)

Weld Surface Defect Detection Method Based on Convolution Neural Network.....
.....FENG Yuxin,DENG Honggui,CHENG Yu(56)

Design of Laser Carbon Monoxide Detection System for Mine Based on TDLAS.....ZHANG Liqun(61)

Research on Gas Path Fault Diagnosis Method Based on Model-based Residual Analysis and Data-driven.....
.....ZHANG Rui,LIAO Zengbu,GENG Jia,SONG Zhiping,WANG Jingwei(67)

Research of Capacitance level Measurement System in Cryogenic Medium.....
.....LIU Yuepeng,CAI Rui,AO Chunfang(74)

Fault Analysis of an Aeroengine Test Based on Nonlinear Squeezing Time-frequency Transform.....
.....ZHANG Rui,CHENG Chuanyi,ZHANG Yunpeng,WANG Shibin,HUANG Hai(79)

Bearings Fault Diagnosis Method Based on Deep Transfer Auto-encoder Under Variable Working Conditions.....
.....SU Jinghan,ZHANG Xiao(85)

Design of Intelligent Workstation for Dimension Measurement Based on Machine Vision.....
.....SHEN Zhengfu,WANG Huifen,YUAN Tangxiao(91)

• Control Technology •

Design of UAV Attitude Robust Control System Based on Backstepping Sliding Mode Algorithm.....
.....XIAO Yingnan,SUN Shuyu(95)

Research on Afterburning Chamber Control Technologies of A Solid Propellant Ducted Rocket.....
.....QI Xin,HU Daqing,ZHANG Ge,HE Yi(100)

Optimal Control Strategy of Customer-side Optical Storage System Under Time-of-use Electricity Price.....
.....ZHENG Jianfeng,LI Tianlun,MAO Shuren,KONG Pengcheng,WU Zhenyu(106)

Design of Valve Positioner Based on Adaptive Fuzzy Immune PID.....
.....MA Zhihang,HU Endian,MAO Ling,ZHU Zhaoyuan,LIU Rongyu(111)

Design of Solar Refrigeration Monitoring System Based on LabVIEW.....
.....XIE Meng,LING Hao,WANG Xinpeng(117)

Design of the Handling Robot Control System Based on AT89C52 Single Chip Microcomputer.....
.....LONG Xiaoli,XIE Binsheng,CHEN Xinbing,LI Weiping(122)

Intelligent Energy Saving Control System Based on OneNET Cloud Platform and MQTT Protocol of Internet of Things
.....LONG Qiaoling,NIU Dexiong,LIN Liyun(127)

Design of Embedded Seat Motion Control System for Smart Home.....
.....ZHANG Enzheng,LI Xirui,LI Ziwen(131)

Modeling of Fermentation Process Based on Stacked Denoising Autoencoder.....	YUE Xiangyang,ZHAO Zhonggai,LIU Fei(136)
Design of Radar Communication Signal Receiving and Sending Control System Based on Big Data Analysis.....	YOU Chun(140)
Design of UAV Yaw Angle Tracking Control System Based on Nuclear Correlation Filtering.....	XIAO Yingnan(145)

• Military Equipment Technology in Measurement and Control •

Research on Actual Combat Training Method of Measurement Radar Based on Simulated Target.....	JIANG Limin,WANG Cheng(149)
Research on Target Calibration Method of Photoelectric Missile.....	LI Qingbo,FAN Ruishan,LI Fang,HUANG Jianxiong,XIE Wenlong(156)
Design of Fighter Formation Command and Control System Based on Beidou Satellite Communication Positioning.....	QIN Mingfeng(161)

• Test Software Engineering •

Design and Implementation of Automatic Interpretation Software for Initial Level of Launch Vehicle Telemetry Parameters.....	CHEN Ce,LIU Liang,Lǐ Changchun,HUANG Hao,YIN Lugao(166)
Human-Computer Interaction Software Design Based on Surface EMG Signal.....	LI Jianliang,WANG Congqing,ZHAN Wenhao,QU Silin,ZHANG Min(171)

• Design and Application •

Design and Implementation of Civil Aircraft Operation Support Data Lake.....	MA Chi(175)
Design and Simulation of Order Analysis System Based on LabVIEW.....	SHEN Gongxin,LIU Qihe(180)
Design of Hospital Information Management System Based on Computer Technology.....	ZHANG Zhibin(185)
Recognizing Bared Earth Region of Aerial Images from UAV.....	ZHONG Yingchun,XIE Linfeng,ZHENG Haiyang,LUO Zhiyong(190)
Research of Hydraulic Mechanical Device using Frequency Response Analysis.....	HUANG Xuejin,ZHENG Wenhua,YU Ting(197)
Research and Application of Gesture Recognition and Rehabilitation System Based on Computer Vision.....	CHEN Zhuanglian,LIN Xiaole,CHEN Yinju,HUANG Qiuying,LI Chao(203)
Modeling and Simulation of Spacecraft Rendezvous Strategy.....	LI Wenxin,LI Kuangdai,WANG Wei(208)
Design of Full Redundancy and High-speed Rocket-ground Communication Device Based on ZYNQ.....	WANG Youchun,XU Xin,XIE Fang,PING Jiawei,HAN Yutong,WANG Xiaolin,XIANG Sigui(213)
Design and Markov Model Analysis of Dual Redundancy Nuclear Power DEH.....	NIU Qilei,ZHANG Weidong(218)
An Efficient Edge Computing Intrusion Detection Algorithm Based on Improved ELM.....	LI Zhongcheng,GAO Huiyan,ZHANG Wenxiang(223)
Pseudo Label Semi-supervised Communication Emitter Identification Method.....	Lǐ Haoyuan,YU Lu,CHEN Pu(229)
Three-dimensional Posture Reconstruction Method and Accuracy Analysis Based on Rotation Vision.....	KUANG Yongcong,DONG Yifei(235)
Research on Trajectory Optimization Technology for Communication Load Balancing.....	LIN Qing,HUANG Yulei(243)

• Test & Evaluation Technology •

Integration of Modeling and Evaluation Techniques of Reliability,Safety,Testability in MBSE Mode.....	LI Jiao,PENG Wensheng,AO Liang(247)
---	-------------------------------------

• Intelligent Instruments and Sensing Technology •

Design and Implementation of a Portable Microwave Peak Power Meter.....	DU Wei,HE Qiyuan,ZHANG Jian,MA Sen(254)
Design and Implementation of Manufacturing Data Recording System Based on Augmented Reality.....	SUN Zhuojian,LI Hongwei,ZUO Kang,ZHAO Fei,MEI Xuesong(259)
Development of Multi-channel Signal Switching Device Based on Switch Array.....	GONG Jingjie,DENG Zhe,WANG Jiale,ZHANG Yongliang,ZHANG Mengyan(264)
Research on Graphics Acceleration Algorithms for Display Instruments of New Generation Manned Spacecraft.....	ZHANG Qingxi,XIA Jiagao,LI Wenxin(269)