

全国中文核心期刊

2023年8月 第44卷 第16期

主管单位：中国兵器装备集团有限公司
主办单位：西南技术工程研究所

包装工程

Packaging Engineering



包装工程

Packaging Engineering

第44卷 第16期 2023年8月20日

目次

院士专栏：中华文化数字化创新设计研究新范式

磁州窑装饰纹样智能辅助设计研究 崔因, 杨建明, 李芳, 岳沛霖 1

专题：人工智能驱动的产品情感化设计

技术视阈下产品色彩情感设计研究综述与展望

丁满, 孙鸣宇, 冯光宇 10

情感化智能设计研究现状及发展趋势

林丽, 郭主恩, 阳明庆 22

人工智能在感性工学研究中的应用与趋势

王年文, 王劲松, 毕翼飞, 张立杰, 陈国强, 万中华 32

基于BP神经网络-证据理论的产品情感评价策略

张谷玉, 韩旭 41

基于复杂网络的产品形态意象与要素挖掘方法

苏建宁, 苏玉姣, 张志鹏, 李雄, 邱凯 48

基于深度学习的虚拟人物形象生成和设计研究

梁涛, 姚怡然, 丁满 59

面向用户情感体验的产品美学智能评估方法研究

卢杨, 吴玥, 刘长奥, 罗仕鉴 67

基于交互式遗传算法的布艺沙发CMF情感化设计研究

张霖, 陈庆, 刘肖健 79

特别策划

虚拟环境中空间压缩问题的影响与改善

宋晓蕾, 汪嘉维 89

工业设计

劝导设计的研究热点与发展趋势

方兴, 王誉霏 101

基于共被引法的国际用户体验研究的核心作者及其研究主题分析

甘为, 黄惠慧, 黄忍 111

基于注意力分配的儿童教育类APP界面布局优化策略研究

石元伍, 张怡晶 121

基于AHP-GRA-TPOISIS的自闭症儿童家庭康复干预产品设计研究

陈家托, 郑宇星, 张立巍 132

基于Kano模型的孤寡老人智能家居健康需求研究

李志榕, 李鸿佳, 陈司宇, 刘洪宇 145

基于系统化差异的中小学研学服务设计研究

丁熊, 任宇杰 154

基于文献计量学的感性工学研究进展可视化分析

赵项, 李正慧, 吴正仲, 陈永康 168

基于感性工学的飞桥游艇造型灰关联度研究

张阳, 宋磊, 李学林, 林海花, 孙洪源 180

高速列车头型的谱系化预测与设计

李怡, 牛文洁, 姬鹏 188

基于神经网络和象元理论的轮毂形态设计研究

孙利, 覃忠志, 张硕, 姜伟, 赵剑, 吴俭涛 198

木质材料视觉感观语义分维量化评价研究

杨颖旒, 李健, 郭梦云, 魏向, 黄竹兰, 刘毅, 郭洪武 210

物流冷链消毒设备改进设计与仿真分析

周红宇, 于佳惠, 肖哲文, 孙萧杰, 张学敏 220

红色文化产品的后期评估共情设计方法

周文治 230

基于文化知识解构与重构的传统手工技艺文化产品设计研究

周楚轶, 陶冶, 李游 237

意义驱动的博物馆文创产品设计框架

吴春茂, 王婉蓉 246

视觉传达设计

- 基于组合式模型的易碎品存储运输包装设计
王建华, 李鹏辉, 符晗 255
- “红色”包装的视觉叙事设计策略研究
耿彦昊, 戴子婧, 张志贤 265
- 基于增强现实技术的亚运礼品文创包装设计
戴瑞, 范子珍, 李琦, 周小丽 272
- 良品铺子包装受众消极感知因素的挖掘与修正
黄本亮, 夏晶晶 279
- 电商背景下设计驱动型初创品牌设计策略研究
马梦迪, 钱晓波 287
- 基于行为认知分析的消防疏散图设计研究
李娟, 袁光宇, 连继峰, 周慧敏 294
- 基于K-means聚类的马王堆帛画色彩特征分析与应用
吴勤, 杨能惠 305
-

设计研讨

- 基于CiteSpace技术的增强现实在文化遗产领域的知识图谱分析研究
陈烁, 范含雪, 江梦婷 315
- 产业化下非遗手工艺文化创新生态研究与实践
傅燕翔, 罗霞 330
- 文旅融合背景下地域文化与文创产品设计的融合研究
侯明明 340
- “两路”精神传承视角下的国道G318文创产品设计研究
邱巧, 张勃 343
- 文创产品设计中传统纹样的应用研究
王琦 352
- 昭觉彝族毛纺织及擀制非遗手工艺文创产品设计
王紫薇, 李洋, 刘超蕊 356
- 博物馆文创产品设计的“内环-外循”框架研究
李军苗, 薛兵 365
- 动漫衍生品视域下的博物馆文创产品设计创新
齐琦 374
- 品牌文化元素在文创产品设计中的具体应用
王嘉楠 381
- 文创产品包装设计理论与实践研究
李雯雯 387
- 警示性语义表达在国产香烟包装设计中的正向研究
郭怡瑛, 吴萍 391
- 构建面向社区居民的药品信息服务设计
陈昕, 张家泰 403
- “五育并举”视角下学龄前乡村留守儿童益智玩具设计研究
曾智林, 贺露露, 彭梦玲, 林洁霞, 杨波, 龚楚婷, 陈雅 410
- 基于共生理念的家居植物培植产品设计研究
刘昊, 鲁红雷, 段秋豪, 于浚睿 419
- 公共设施设计中传统文化元素的应用
代蕾 428
- 基于Miryoku工程理论的南丹白裤瑶景区公共设施设计研究
黄智孟, 杨泽, 梁燕敏 431
- 生态美学视角下城市公共设施设计研究
吴余青, 朱奕苇 440
- 基于Kano和QFD模型的智能公共设施设计研究
李琳, 叶仲凯 447
-

设计智创·公共空间智能产品设计

- 桂林理工大学艺术学院成果展示
- 桂林理工大学艺术学院设计作品
- 自然用户界面在智能家居系统中的应用路径创新研究: 生成式人工智能技术的调节作用
彭强, 李羿卫 454
- 数字孪生技术在家庭游戏娱乐产品中的应用研究
周屹, 郭梦园, 黄达翔 464
- 多感官交互通道对智能家庭影音产品的可用性体验影响研究
陈韶晗, 严世华 471
- 基于5G与AI技术的家庭服务机器人交互设计研究
邹志娟, 陈思洁 479
-

信息索引

- 长江源生态文创产品设计——“福禄”斜挎包 冯圣斌、韩李李封二
- A 视觉语言对电影意象的“转译”——《情书》 B《叠加古城》 C《饱餐一顿》
孙雨田、余晓宝封三
-

PACKAGING ENGINEERING

(Initial Issue 1980) (Semimonthly) Vol.44 No.16 (Total No.502) Aug.20, 2023

Contents

Academician Column: New Paradigm of Chinese Culture Digital Innovation Design Research

AI-assisted Design for Decorative Pattern of Cizhou Kiln
CUI Yin, YANG Jian-ming, LI Fang, YUE Pei-lin 1

Special Subject: Emotional design of products driven by artificial intelligence

Review and Prospect of Product Color Emotion Design from the Perspective of Technology
DING Man, SUN Ming-yu, FENG Guang-yu 10

Current Status and Development Trends of Emotional Intelligent Design Research
LIN Li, GUO Zhu-en, YANG Ming-qing 22

Application and Trend of Artificial Intelligence in Kansei Engineering Research
WANG Nian-wen, WANG Jing-song, BI Yi-fei, ZHANG Li-jie, CHEN Guo-qiang, WAN Zhong-hua 32

Emotional Evaluation Strategy of Product Based on BP Neural Network and Evidence Theory
ZHANG Gu-yu, HAN Xu 41

Product Form Image and Element Mining Method Based on Complex Network
SU Jian-ning, SU Yu-jiao, ZHANG Zhi-peng, LI Xiong, QIU Kai 48

Generation and Design of Virtual Characters Based on Deep Learning
LIANG Tao, YAO Yi-ran, DING Man 59

Intelligent Evaluation Method of Product Aesthetics Oriented to User's Emotional Experience
LU Yang, WU Yue, LIU Chang-ao, LUO Shi-jian 67

Emotional Design of Fabric Sofa CMF Based on Interactive Genetic Algorithm
ZHANG Mi, CHEN Qing, LIU Xiao-jian 79

Special Planning

Influence and Improvement of Space Compression in Virtual Environment
SONG Xiao-lei, WANG Jia-wei 89

Industrial Design

Research Hotspots and Development Trends of Persuasive Design
FANG Xing, WANG Yu-fei 101

Co-citation Analysis Based Analysis of International User Experience Design Core Authors and Their Research Topics
GAN Wei, HUANG Hui-hui, HUANG Ren 111

Optimization Strategy of Children's Educational APP Interface Layout Based on Attention Allocation
SHI Yuan-wu, ZHANG Yi-jing 121

Design of Family Rehabilitation and Intervention Products for Autistic Children Based on AHP-GRA-TOPSIS
CHEN Jia-tuo, ZHENG Yu-xing, ZHANG Li-wei 132

Health Needs of Smart Home for the Lonely Elderly Based on Kano Model
LI Zhi-rong, LI Hong-jia, CHEN Si-yu, LIU Hong-yu 145

Study Tour Service Design of Primary and Secondary Schools Based on Systematic Difference
DING Xiong, REN Yu-jie 154

Visual Analysis of Research Progress in Kansei Engineering Based on Bibliometrics
ZHAO Xiang, LI Zheng-hui, WU Zheng-zhong, CHEN Yong-kang 168

Grey Relational Analysis of Flybridge Yacht Modeling Based on Kansei Engineering
ZHANG Yang, SONG Lei, LI Xue-lin, LIN Hai-hua, SUN Hong-yuan 180

Pedigree Prediction and Design Method of High-speed Train Head Shape
LI Yi, NIU Wen-jie, JI Peng 188

Hub Form Design Based on Neural Network and Pixel Theory
SUN Li, QIN Zhong-zhi, ZHANG Shuo, JIANG Wei, ZHAO Jian, WU Jian-tao 198

Quantitative Evaluation of Visual Perception Semantic Fractal Dimension of Wood Materials
YANG Ying-ni, LI Jian, GUO Meng-yun, WEI Xiang, HUANG Zhu-lan, LIU Yi, GUO Hong-wu 210

Improved Design and Simulation Analysis of Logistics Cold Chain Disinfection Equipment
ZHOU Hong-yu, YU Jia-hui, XIAO Zhe-wen, SUN Xiao-jie, ZHANG Xue-min 220

Empathic Design Method of Red Cultural Products Based on Late Appraisal Model
ZHOU Wen-zhi 230

Research on the Design of Traditional Handicraft Cultural Products Based on the Deconstruction and Reconstruction of Cultural Knowledge

ZHOU Chu-yi, TAO Ye, LI You 237

Meaning-driven design Framework for Cultural and Creative Products of Museum

WU Chun-mao, WANG Wan-rong 246

Visual Communication Design

Design of Fragile Article Storage and Transportation Packaging Based on Combined Model

WANG Jian-hua, LI Peng-hui, FU Han 255

Visual Narrative Design Strategy of "Red" Packaging

GENG Yan-hao, DAI Zi-jing, ZHANG Zhi-xian 265

Packaging Design of Asian Games Cultural and Creative Gifts Based on Augmented Reality Technology

DAI Rui, FAN Zi-zhen, LI Qi, ZHOU Xiao-li 272

Excavation and Revision of Audience Negative Perception Factors in Bestore Packaging

HUANG Ben-liang, XIA Jing-jing 279

Design Strategies of Start-up Brands Driven by Design in the Context of E-commerce

MA Meng-di, QIAN Xiao-bo 287

Fire Evacuation Map Design Based on Behavioral Cognitive Analysis

LI Juan, YUAN Guang-yu, LIAN Ji-feng, ZHOU Hui-min 294

Analysis and Application of Color Characteristics of Mawangdui Silk Paintings Based on K-means Clustering

WU Kan, YANG Neng-hui 305

Design Discussion

Knowledge Map Analysis of CiteSpace-based Augmented Reality in Cultural Heritage Research

CHEN Shuo, FAN Han-xue, JIANG Meng-ting 315

Research and Practice on Cultural Innovation Ecology of Intangible Cultural Heritage Handicraft under Industrialization

FU Yan-xiang, LUO Xia 330

Integration of Regional Culture and Cultural and Creative Product Design under the Background of Integration of Culture and Tourism

HOU Ming-ming 340

Cultural and Creative Product Design of National Highway G318 from the Perspective of "Two Roads" Spirit Inheritance

QIU Qiao, ZHANG Bo 343

Application of Traditional Patterns in the Design of Cultural and Creative Product

WANG Qi 352

Zhaojue Yi Wool Textile and Rolling Pin Intangible Cultural Handicraft Creation Product Design

WANG Zhi-wei, LI Yang, LIU Chao-song 356

"Inner Loop-Outer Loop" Framework of Museums' Cultural and Creative Product Design

LI Jun-miao, XUE Bing 365

Innovation Research on Museum Cultural and Creative Product Design from the Perspective of Animation Derivatives

QI Qi 374

Specific Application of Brand Culture Elements in Cultural and Creative Product Design

WANG Jia-nan 381

Theoretical and Practical Research on Packaging Design of Cultural and Creative Products

LI Wen-wen 387

A Positive Study of Cautionary Semantic Expressions in Design of Domestic Cigarette Packaging

GUO Yi-ying, WU Ping 391

Service Design of Drug Information for Community Residents

CHEN Xin, ZHANG Jia-tai 403

Design of Educational Toys for Rural Preschoolers Left Behind from the Perspective of "Five Educations"

ZENG Zhi-lin, HE Lu-lu, PENG Meng-ling, LIN Jie-xia, YANG Bo, GONG Chu-ting, CHEN Ya 410

Indoor Plant Cultivation Product Design Based on Symbiosis Theory

LIU Hao, LU Hong-lei, DUAN Qiu-hao, YU Jun-rui 419

Application of Traditional Cultural Elements in Design of Public Facilities

DAI Lei 428

Research on the Design of Public Facilities in Nandan Baiku Yao Scenic Area Based on Miryoku Engineering Theory

HUANG Zhi-meng, Yang Ze, LIANG Yan-min 431

Design of Urban Public Facilities under Ecological Aesthetics

WU Yu-qing, ZHU Yi-wei 440

Design of Intelligent Public Facilities Based on Kano and QFD Models

LI Lin, YE Zhong-kai 447

Design Intelligent Innovation·Public Space Intelligent Product Design

Achievements of School of Art, Guilin University of Technology

Design Works of School of Art, Guilin University of Technology

Application Path Innovation of Natural User Interface in Smart Home System: Moderating Effect of Generative Artificial Intelligence Technology

PENG Qiang, LI Yi-wei 454

Application of Digital Twin Technology in Home Game Entertainment Products

ZHOU Yi, GUO Meng-yuan, HUANG Da-xiang 464

Effect of Multisensory Interaction Channels on Usability Experiences in Smart Home Audio-visual Products

CHEN Shao-han, YAN Shi-hua 471

Interaction Design of Home Service Robots Based on 5G and AI Technology

ZOU Zhi-juan, CHEN Si-jie 479

包装工程

Packaging Engineering

全国中文核心期刊

主管单位:中国兵器装备集团有限公司

主办单位:西南技术工程研究所



ISSN 1001-3563

CN 50-1094/TB

定价: 45.00元

邮发代号: 78-30

国外发行号: BM1799

ISSN 1001-3563



9 771001 356236

16>