# 2023 5th International Symposium on Smart and Healthy Cities (ISHC 2023)

Hainan, China 16-17 December 2023



IEEE Catalog Number: CFP23BL9-POD ISBN: 979-8-3503-7153-6

## Copyright © 2023 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP23BL9-POD

 ISBN (Print-On-Demand):
 979-8-3503-7153-6

 ISBN (Online):
 979-8-3503-6074-5

#### **Additional Copies of This Publication Are Available From:**

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



## 2023 5th International Symposium on Smart and Healthy Cities (ISHC) ISHC 2023

### **Table of Contents**

| Message from the General Chairs i  Message from the Program Chairs x  Committees x  Reviewers xii  Sponsors x  | x<br>i |
|--|--------|
| 2023 5th International Symposium on Smart and Healthy Cities (ISHC)  |        |
| Research on Building Energy Consumption Decision Prediction Method Based on GMM  | 1      |
| Monitoring and Analysis of Land Subsidence Along the Subway Line with Time-Sequence SBAS-InSAR  Yonglin Yang (China JiKan Research Institute of Engineering Investigations and Design Co Ltd., China), Chao Yang (China JiKan Research Institute of Engineering Investigations and Design Co Ltd., China), Xin Zhang (China JiKan Research Institute of Engineering Investigations and Design Co Ltd., China), Dongfeng Pan (China JiKan Research Institute of Engineering Investigations and Design Co Ltd., China), and Zhaobo Chao (China JiKan Research Institute of Engineering Investigations and Design Co Ltd., China) | 7      |
| Adaptive GA-BP Model Prediction of Subway Shield Tunneling Settlement in Smart City  Construction  | 4      |
| Prediction Method of Tea Disease Based on HP Filter and Ant Colony Grey Model  | 2      |

| Prediction and Analysis of Air Quality Warning Based on Neural Network  Zhonglin Huang (Chengdu Technological University, China), Xiaoyu Li (Chengdu Technological University, China), Fangkai Cai (Chengdu  Technological University, China), Yongjun Pu (Chengdu Technological  University, China), Junjie Wang (Chengdu Technological University,  China), Congsheng Jia (Chengdu Technological University, China), Kaiyu  Tan (Chengdu Technological University, China), and Xinpeng Chen (Chengdu Technological University, China)                     | 29 |
|---|----|
| Multi-Branch Integrated Model for Respiratory Disease Screening Using Cough Sounds  | 34 |
| Comparison and Real-Life Test of Three Technical Schemes of Holographic Perception of Tunnel Traffic Operation  | 40 |
| Mongolian Education Resource Platform Based on SpringMVC+Hibernate+Spring Integration Framework Xingwang Li (Graduate University of Mongolia, China)  | 46 |
| A Real-Time Mask Wearing Behavior Detection Model Based on Deep Learning  | 53 |
| Tobacco Maturity Recognition Based on an Improved YOLOv8 Algorithm  Xin Zan (Xi'an Jiaotong University, China), Yang Chen (Xi'an Jiaotong  University, China), Ziran Li (Qujing Tobacco Company of Yunnan  Province, China), Tao Wang (Qujing Tobacco Company of Yunnan Province,  China), Baolin Zhang (Qujing Tobacco Company of Yunnan Province,  China), Zhao Zhang (Qujing Tobacco Company of Yunnan Province, China),  Lingmei Li (Qujing Tobacco Company of Yunnan Province, China), and Tao  Bai (Qujing Tobacco Company of Yunnan Province, China) | 58 |
| Power Load Forecasting Based on Deep Neural Network   | 63 |
| Safety Research of Domestic Database in the Field of Traffic Construction  Yang Liu (China Communications Information Technology Group Co., Ltd., China), Zhanao Wang (China Communications Information Technology Group Co., Ltd., China), Xulei Guo (China Communications Information Technology Group Co., Ltd., China), and Bing Xu (China Communications Information Technology Group Co., Ltd., China)  | 68 |

| Efficient Commercial Bank Customer Credit Risk Assessment Based on LightGBM and Feature  |
|--|
| Engineering  |
| Research on Visualization and Virtual Reality Technology of Road and Bridge Engineering Based on BIM+GIS Technology  |
| Method for Medium- and Long-Term Reservoir Streamflow Prediction by Coupling Group Search Dptimizer with Deep Learning   |
| Research on Safety Risk Prediction Model of High-Speed Railway Based on Chaotic RBF Neural Network   |
| Exploring Tooth Segmentation Techniques Based on the BiSeNet Model   |
| Enhancing Smart Park Infrastructure Through the Implementation of a Comprehensive Travel Chain System Based on Autonomous Driving  |
| Optimization of Urban Landscape Design Based on Interactive Genetic Algorithm  |
| Spraying Path Planning Method for Indoor Painting Robots with Uniform Paint Film Thickness   |
| Tao Geng (Xi'an Jiaotong University, China), Baozhu Li (Xi'an Jiaotong<br>University, China), Jinhu Wang (Xi'an Tianbai Installation and<br>Decoration Engineering Co., Ltd, China), and Wenming Xiong (Xi'an<br>Tianbai Installation and Decoration Engineering Co., Ltd, China)  |
| Design of Automatic Monitoring System of Electrical Tower Shape Change Based on GNSS 121 Modong Duan (Powerchina JiangXi Electric Power Engineering Co., Ltd., China), Lin Yin (State Grid Jiangxi Electric Power Co., Ltd., China), Tongyuan Zhang (State Grid Ji' An Power Supply Company, China), Qian Chen (State Grid Ji' An Power Supply Company, China), Chao Wang (China University of Geosciences (Wuhan), China), Yongquan Zhang (China University of Geosciences, China), and Chuan Wu (China University of Geosciences (Wuhan), China) |

| A | author Index |  |  |  |  | . 127 |
|---|--------------|--|--|--|--|-------|
|---|--------------|--|--|--|--|-------|