

Chunxiao Xing · Yong Zhang
Ye Liang (Eds.)

Smart Health

International Conference, ICSH 2016
Haikou, China, December 24–25, 2016
Revised Selected Papers

Contents

Big Data and Smart Health

The SWOT Analysis of the Wearable Devices in Smart Health Applications	3
<i>Yu Yang, Sijun Yu, Yuwen Hao, Xiao Xu, and Huiliang Liu</i>	
A New Inverse N th Gravitation Based Clustering Method for Data Classification	9
<i>Huarong Xu, Li Hao, Chengjie Jianag, and Ejaz Ul Haq</i>	
Extracting Clinical-event-packages from Billing Data for Clinical Pathway Mining	19
<i>Haowei Huang, Tao Jin, and Jianmin Wang</i>	
A Big Data Analysis Platform for Healthcare on Apache Spark	32
<i>Jinwei Zhang, Yong Zhang, Qingcheng Hu, Hongliang Tian, and Chunxiao Xing</i>	
A Semi-automated Entity Relation Extraction Mechanism with Weakly Supervised Learning for Chinese Medical Webpages	44
<i>Zhao Liu, Jian Tong, Jinguang Gu, Kai Liu, and Bo Hu</i>	
Strategies and Challenges of Multilingual Information Retrieval on Health Forum.	57
<i>Ye Liang, Ying Qin, and Bing Fu</i>	

Health Data Analysis and Management, Healthcare Intelligent Systems and Clinical Practice

SilverLink: Developing an International Smart and Connected Home Monitoring System for Senior Care	65
<i>Lubaina Maimoon, Joshua Chuang, Hongyi Zhu, Shuo Yu, Kuo-Shiuan Peng, Rahul Prayakarao, Jie Bai, Daniel Zeng, Shu-Hsing Li, Hsinmin Lu, and Hsinchun Chen</i>	
HKDP: A Hybrid Knowledge Graph Based Pediatric Disease Prediction System	78
<i>Penghe Liu, Xiaoqing Wang, Xiaoping Sun, Xi Shen, Xu Chen, Yuzhong Sun, and Yanjun Pan</i>	

Research on the Smartphone Based eHealth Systems for Strengthening Healthcare Organization	91
<i>Uzair Aslam Bhatti, Mengxing Huang, Yu Zhang, and Wenlong Feng</i>	
Performance of Finger-Vein Features as a Human Health Indicator	102
<i>Shilei Liu, He Zheng, Gaoxiong Xu, Liao Ni, Yi Zhang, and Wenxin Li</i>	
A Cluster Method to Noninvasive Continuous Blood Pressure Measurement Using PPG	109
<i>Yu Miao, Zhiqiang Zhang, Lifang Meng, Xiaoqin Xie, and Haiwei Pan</i>	
A Multi-feature Fusion Method to Estimate Blood Pressure by PPG	121
<i>Lifang Meng, Zhiqiang Zhang, Yu Miao, Xiaoqin Xie, and Haiwei Pan</i>	
A Networked and Intelligent Regional Collaborative Treatment System for AMI	132
<i>Ming Sheng, Jianwei Liu, Hongxia Liu, Yong Zhang, Chunxiao Xing, and Yinan Li</i>	
Medical Monitoring and Information Extraction, Clinical and Medical Data Mining	
AZPharm MetaAlert: A Meta-learning Framework for Pharmacovigilance . . .	147
<i>Xiao Liu and Hsinchun Chen</i>	
MedC: Exploring and Predicting Medicine Interactions to Support Integrative Chinese Medicine	155
<i>Xin Li, Haobo Gu, and Yu Tong</i>	
Classification of Cataract Fundus Image Based on Retinal Vascular Information	166
<i>Yanyan Dong, Qing Wang, Qinyan Zhang, and Jijiang Yang</i>	
Medical Data Machine Translation Evaluation Based on Dependency N-Grams	174
<i>Ying Qin and Ye Liang</i>	
A Method of Electronic Medical Record Similarity Computation	182
<i>Ziping He, Jijiang Yang, Qing Wang, and Jianqiang Li</i>	
Heart Rate Variability (HRV) Biofeedback After Stroke Improves Self-regulation of Autonomic Nervous System During Cognitive Stress	192
<i>Xin Li, Dechun Sang, Yan Zhang, Bo Zhang, and Chunxiao Xing</i>	
A Medical Image Retrieval Algorithm Based on DFT Encryption Domain . . .	205
<i>Chunyan Zhang, Jingbing Li, Shuangshuang Wang, Yucong Duan, Mengxing Huang, and Daoheng Duan</i>	

A Robust Watermarking Algorithm for Medical Images
in the Encrypted Domain 217
Jiangtao Dong, Jingbing Li, and Zhen Guo

Effect of a Mobile Internet Regional Cooperative Rescue System
on Reperfusion Efficiency and Prognosis of STEMI Patients 230
Sijun Yu, Yu Yang, Wei Han, Jing Lu, and Huiliang Liu

A Robust Algorithm of Encrypted Medical Image Retrieval Based
on 3D DFT 238
Shuangshuang Wang, Jingbing Li, Chunyan Zhang, and Zhaohui Wang

Author Index 251