Vol. 33 No. 4(1) 2021

Sensors and Materials

Contents

Special Issue on Artificial Intelligence in Sensing Technologies and Systems Guest editor, Lin Lin (Dalian University of Technology)

Preface

Research Paper of Special Issue (Physical/Mechanical Sensors)
Design and Fabrication of Quartz MEMS-based Monolithic Vibrating Beam Accelerometer (S & M 2521) Jinxing Liang, Qi Tang, and Shengshou Lin
Research Paper of Special Issue (Sensor Applications)
Intelligent Monitoring System Based on Optical Fiber Acoustic Emission Sensor and Its Application in Partial Discharge Diagnosis of Gas-insulated Switchgear
(S & M 2522)
Shiqi Hou, Yongrui Qin, Jiaxin Gao, Fuyong Lyu, and Xuefeng Li1127
Research Paper of Special Issue (Sensor Applications)
High-sensitivity Hydrogen Leakage Sensor for New-energy Vehicles (S & M 2523)
Jing Ji, Meng Zhao, and Toshitsugu Ueda
Research Paper of Special Issue (Sensor Applications)
Genetic-algorithm-based Convolutional Neural Network for Robust Time Series Classification with
Unreliable Data (S & M 2524)
Jiang Wu, Yanju Ji, and Suyi Li1149
Research Paper of Special Issue (Sensor Applications)
Process Monitoring with Support of IoT in Prefabricated Building Construction (S & M 2525)
Yisong Yuan, Sudong Ye, and Lin Lin
Tisong Tuan, Sudong Te, and Em Em Em Em Em Em Tisong Tuan, Sudong Te, and Em
Research Paper of Special Issue (Sensor Applications)
Robust Recognition of Chinese Text from Cellphone-acquired Low-quality Identity Card Images Using
Convolutional Recurrent Neural Network (S & M 2526)
Jianmei Wang, Ruize Wu, and Shaoming Zhang1187
Research Paper of Special Issue (Related Technologies)
Simulation-based Design of Quartz Resonator for Bionic Olfactory Sensor (S & M 2527)
Meng Zhao, Jing Ji, and Toshitsugu Ueda1199

SPECIAL ISSUE ON ARTIFICIAL INTELLIGENCE IN SENSING TECHNOLOGIES AND SYSTEMS

Preface



Artificial intelligence (AI) and machine learning (ML) have recently achieved state-of-the-art performance in a lot of difficult tasks and facilitated the creation of new products and services in many different fields. Sensing technologies and sensing systems are now undergoing massive expansion and development, and the combination of AI and sensors will become very common.

This special issue focuses on state-of-the-art AI and advanced technologies for sensing technologies and systems. The seven papers included in this special issue were selected through a rigorous review process. These papers introduce innovative applications of sensor technologies in computer vision, new-energy vehicles, healthcare, construction, blockchains, and power systems.

Lastly, I would like to congratulate the authors for their original contributions and thank the referees for their generous contribution of time and expertise to maintain the high quality of papers in *Sensors and Materials*. Special thanks go to Ms. Misako Sakano, the leader of the Editorial Department, for her great help and encouragement.

> Lin Lin Dalian University of Technology China