

PROCEEDINGS OF SPIE

International Workshop on Signal Processing and Machine Learning (WSPML 2023)

Yang Yue

Editor

22–24 September 2023

Hangzhou, China

Organized by

Xi'an Jiaotong University (China)

Key Laboratory of Optoelectronic Technology and System (Chongqing University) Ministry of Education (China)

South China University of Technology (China)

Sponsored by

The Hong Kong Society of Robotics and Automation (Hong Kong, China)

Published by

SPIE

Volume 12943

Proceedings of SPIE 0277-786X, V. 12943

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

The papers in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. Additional papers and presentation recordings may be available online in the SPIE Digital Library at SPIDigitalLibrary.org.

The papers reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from these proceedings:

Author(s), "Title of Paper," in *International Workshop on Signal Processing and Machine Learning (WSPML 2023)*, edited by Yang Yue, Proc. of SPIE 12943, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510671928

ISBN: 9781510671935 (electronic)

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time)

SPIE.org

Copyright © 2023 Society of Photo-Optical Instrumentation Engineers (SPIE).

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of fees. To obtain permission to use and share articles in this volume, visit Copyright Clearance Center at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher.

Printed in the United States of America by Curran Associates, Inc., under license from SPIE.

Publication of record for individual papers is online in the SPIE Digital Library.

**SPIE. DIGITAL
LIBRARY**

SPIDigitalLibrary.org

Paper Numbering: A unique citation identifier (CID) number is assigned to each article in the Proceedings of SPIE at the time of publication. Utilization of CIDs allows articles to be fully citable as soon as they are published online, and connects the same identifier to all online and print versions of the publication. SPIE uses a seven-digit CID article numbering system structured as follows:

- The first five digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc. The CID Number appears on each page of the manuscript.

Contents

vii *Conference Committee*

INTERNATIONAL WORKSHOP ON SIGNAL PROCESSING AND MACHINE LEARNING (WSPML 2023)

- 12943 02 **On the relationship of data mining-based sound and emotion in poetry** [12943-2]
- 12943 03 **Dynamic traffic signal control based on multi-agent curricular transfer learning** [12943-5]
- 12943 04 **Bilingual short texts incorporating emojis sentiment calculation** [12943-7]
- 12943 05 **Temperature compensation of pH sensor based on improved adaptive genetic neural network** [12943-9]
- 12943 06 **The prefabs lexicon of Lhasa Tibetan in continuous speech** [12943-10]
- 12943 07 **Deep learning-based total impulse prediction method in ignition process of solid rocket motor** [12943-11]
- 12943 08 **Word sense disambiguation for low resource languages: setswana collocations** [12943-12]
- 12943 09 **The neural mechanisms tone recognition in deaf children: an fMRI study** [12943-13]
- 12943 0A **Deep learning-based cross-modality performance characteristics prediction method for solid rocket motor** [12943-14]
- 12943 0B **A functional magnetic resonance imaging study of how deaf children process three Mandarin tones** [12943-15]
- 12943 0C **A review and prospect of Chinese word meaning system research in the past three decades: based on knowledge graph visualization and bibliometric analysis** [12943-16]
- 12943 0D **SSGCN: a graph convolutional neural network model based on syntactic structure and similarity features for relation extraction in shipbuilding industry** [12943-17]
- 12943 0E **GSP LMSMCC algorithm based on neural network with trainable step size and kernel parameter** [12943-18]
- 12943 0F **Spatial cone object classification based on improved naive Bayes algorithm** [12943-19]
- 12943 0G **Reflection signal classification of deep-sea surface sediment based on 1DCNN-DLSTM networks** [12943-20]

- 12943 OH **A study on the perception of English onset consonants by Cantonese, Mandarin and English native speakers** [12943-24]
- 12943 OI **Economic speed planning for autonomous electric truck at mining site** [12943-25]
- 12943 OJ **Failure mode recognition for fuze ESAD based on optical fiber sensing and deep learning** [12943-26]
- 12943 OK **Relationship and contribution rate estimation analysis based on the EEMD for complicated mechanical signals** [12943-27]
- 12943 OL **Experimental EEMD analysis of multisource and multicomponent mechanical signals for wet ball mill load** [12943-28]
- 12943 OM **UHF partial discharge location method based on time fingerprint** [12943-29]
- 12943 ON **Contrastive representation learning with noisy pseudo labels for unsupervised person re-identification** [12943-32]
- 12943 OO **An unsupervised fusion method for infrared and visible image fusion under low-light condition** [12943-35]
- 12943 OP **Road damage detection method based on improved YOLOv8n** [12943-37]
- 12943 OQ **Embedded software test case design based on black box technology** [12943-40]
- 12943 OR **ReGiSegNet: a post-operative glioma segmentation based on magnetic resonance imaging** [12943-43]
- 12943 OS **Intelligent environment art design combining big data and artificial intelligence** [12943-44]
- 12943 OT **Interactive art design with deep learning and information fusion technology** [12943-45]
- 12943 OU **Online anti-collision monitoring method for transmission line based on cloud-fog cooperative computation** [12943-46]
- 12943 OV **Foreign object extraction method of transmission line based on affinity propagation clustering** [12943-47]
- 12943 OW **Lightweight private 5G network empowers industrial internet: solution framework and use case** [12943-49]
- 12943 OX **Multi-document reading comprehension model based on electra and document sliding window** [12943-50]
- 12943 OY **Evaluation on the red sports culture system from the perspective of VR** [12943-51]
- 12943 OZ **A multibeam outlier detection algorithm based on density clustering** [12943-52]

- 12943 10 **Image retrieval based on asymmetric supervised deep pairwise hashing** [12943-54]
- 12943 11 **FPGA versus GPU for accelerating homomorphic encryption in federated learning** [12943-55]
- 12943 12 **An efficient and accurate bev-based camera/lidar 3d object detection algorithm** [12943-56]
- 12943 13 **Phonation variation in Zhangzhou Southern Min** [12943-62]
- 12943 14 **Cubature Kalman filter based on generalized minimum error entropy with fiducial point**
[12943-63]
- 12943 15 **Evaluating the effectiveness of supervised learning models for antibiotic pollution detection
from biochip data** [12943-64]
- 12943 16 **Beyond images: data visualization through headline analysis in historical newspaper with
computer vision** [12943-65]
- 12943 17 **Enabling technologies for multi-robot human collaboration** [12943-66]
- 12943 18 **Data extraction from scanned invoice documents in multiple languages** [12943-67]