PROCEEDINGS OF SPIE

Ninth International Workshop on Pattern Recognition

Hui Tian
Editor

21–23 June 2024
Xiamen, China

Cosponsored by
Huaqiao University (China)

Hosted by
The College of Computer Science and Technology, Huaqiao University (China)

Cohosted by
The School of Informatics, Xiamen University (China)

Published by
SPIE

Volume 13399

Proceedings of SPIE 0277-786X, V. 13399

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

Ninth International Workshop on Pattern Recognition, edited by Hui Tian, Proc. of SPIE
Vol. 13399, 1339901 · © 2024 SPIE · 0277-786X · doi: 10.1117/12.3055135

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 SPIEDigitalLibrary.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 *Ninth International Workshop on Pattern Recognition*, edited by Hui Tian, Proc. of SPIE 13399, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X
ISSN: 1996-756X (electronic)

ISBN: 9781510685765
ISBN: 9781510685772 (electronic)

Published by
SPIE
P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time)
SPIE.org
Copyright © 2024 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
SPIEDigitalLibrary.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

v *Conference Committee*

PATTERN RECOGNITION AND ALGORITHM

13399 02 **CLIP-optimized prompt for zero-shot wild animal identification** [13399-6]

13399 03 **YOLOV8-based brown bear recognition algorithm in Qinghai-Tibet Plateau** [13399-8]

13399 04 **Depth-invariant and lag-invariant dissimilarity evaluation for periodic motion** [13399-15]

13399 05 **Enhancing finger vein recognition systems through local feature aggregation and multiple finger fusion** [13399-14]

IMAGE SEGMENTATION AND FEATURE EXTRACTION

13399 06 **SAM_{LF}Diag: SAM generated latent segmentation features for disease diagnosis** [13399-17]

13399 07 **SCU-Net+: enhanced spatial and channel reconstruction U-Net** [13399-5]

13399 08 **Measurement method and experiment of binocular camera based on GA-BP neural network** [13399-4]

COMPUTER VISION AND IMAGE RECONSTRUCTION

13399 09 **Application of artificial intelligence in computer vision: a review of the research on insecure behaviors of people based on deep learning** [13399-12]

13399 0A **DESR: dynamic endoscopic scene reconstruction based on Gaussian splatting** [13399-13]

13399 0B **3D modelling of a distribution room based on CAD drawings** [13399-10]

Conference Committee

Conference Advisory Committee

Witold Pedrycz, University of Alberta (Canada)

Conference General Chair

Jin Gou, Huaqiao University (China)

Conference Co-chair

Xudong Jiang, Nanyang Technological University (Singapore)

Program Chairs

Suzhen Wu, Xiamen University (China)
Jing Wang, Huaqiao University (China)
Filippo Neri, University of Naples "Federico Ii" (Italy)

Program Co-chairs

Kin Choong You, University of Regina (Canada)
Leyuan Liu, Central China Normal University (China)
Zhenghong Yu, Guangdong Polytechnic of Science and Technology (China)

Local Organizing Chair

Hui Tian, Huaqiao University (China)

Local Organizing Co-chair

Bo Mao, Xiamen University (China)

Local Chairs

Yiqiao Cai, Huaqiao University (China)
Hui Ying, Huaqiao University (China)

Publicity Chairs

Zhun Fan, Shantou University (China)
Shipping Wang, Fuzhou University (China)
Hongbo Zhang, Huaqiao University (China)

Award Chair

Jialin Peng, Huaqiao University (China)

Publication Chair

Xiaolong Huang, Donghua University (China)

Treasurer

Hanyu Quan, Huaqiao University (Singapore)

Technical Committees

Hany Mansour, Military Technical College (Egypt)
Jianfeng Ren, University of Nottingham Ningbo China (China)
Xinglin Shen, national University of Defense Technology (China)
Yang Yang, China Electric Power Research Institute (China)
Yahui Peng, Beijing Jiaotong University (China)
Jorge Henriques, Universidade de Coimbra (Portugal)
Mohamed Arezki Mellal, M'Hamed Bougara University (Algeria)
Xuebo Zhang, Northwest Normal University (China)
Jingjing Xiao, Xinqiao Hospital of Third Military Medical University (China)
Jessie R. Balbin, Mapua University (Philippines)
Lishan Jia, Civil Aviation University of China (China)
Mayukha Pal, University of Hyderabad Campus (India)
Luisito Lolong Lacatan, University of Cabuyao (Philippines)
Arti Khaparde, Maharashtra Institute of Technology (India)
Qiu Chen, Kogakuin University (Japan)
Bok-Min Goi, Universiti Tunku Abdul Rahman (Malaysia)
Xianfang Sun, Cardiff University (United Kingdom)
Xiwen Zhang, Beijing Language and Culture University (China)
Lei Meng, Shandong University (China)
Alex Ong, Republic Polytechnic (Singapore)
Nan Zhu, Xi'an Technological University (China)
Ramon G. Garcia, Mapua University (Philippines)
Minglun Gong, University of Guelph (Canada)
Stefano Berretti, University of Florence (Italy)

Session Chairs

1 Pattern Recognition and Algorithm
Yue Li, Huaqiao University (China)

2 Image Segmentation and Feature Extraction
Ziyi Chen, Huaqiao University (China)

3 Computer Vision and Image Reconstruction
Yew Kee Wong Eric, Hong Kong Chu Hai College (Hong Kong)