PROCEEDINGS OF SPIE

International Conference on Remote Sensing Technology and Image Processing (RSTIP 2024)

Johan Debayle Nilanchal Patel Editors

29 November – 1 December 2024 Dali, China

Organized by Suzhou University of Science and Technology (China)

Sponsored by AEIC—Academic Exchange Information Centre (China)

Published by SPIE

Volume 13640

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 *International Conference on Remote Sensing Technology and Image Processing (RSTIP 2024)*, edited by Johan Debayle, Nilanchal Patel, Proc. of SPIE 13640, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510691902

ISBN: 9781510691919 (electronic)

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA Telephone +1 360 676 3290 (Pacific Time)

Copyright © 2025 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.



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

DEEP LEARNING AND REMOTE S	ENSING TECHNOLOGY	FOR MULIIDOMAIN A	PPLICATIONS

	DEEP LEAKNING AND REMOTE SENSING TECHNOLOGY FOR MULTIDOMAIN APPLICATIONS
13640 02	Silkworm segmentation based on deep learning: a comprehensive comparative study [13640-24]
13640 03	Implementation of multisource data fusion satellite embedded system based on array cluster clustering algorithm [13640-25]
13640 04	Dual-channel context-based model-switching framework for SAR ship detection [13640-6]
13640 05	Air quality monitoring for the 31st FISU World University Games based on TROPOMI and GEMS satellite data [13640-10]
13640 06	Research on focus measure function of deep space exploration camera based on image frequency domain energy reorganization [13640-7]
13640 07	Comprehensive evaluation of ecological sensitivity of Dangxiong section of Qinghai-Tibet railway based on NDVI [13640-23]
13640 08	Atmospheric correction and reflectance accuracy analysis of GF-5 01A hyperspectral sensor data [13640-13]
13640 09	Study on forest canopy height estimation based on multisource data synergy of GEDI L2A [13640-1]
13640 OA	Semantic segmentation of remote sensing image based on pre-trained large model and U-Net [13640-8]
13640 OB	Enhanced U-Net with scale-sensitive attention mechanisms for building extraction from remote sensing images [13640-3]
13640 OC	Direct and indirect ways to map urban building density from very high-resolution remote sensing images using deep learning approaches [13640-12]
	RESEARCH ON COMPUTER VISION AND IMAGE PROCESSING TECHNOLOGY
	The state of the s
13640 0D	Adaptive image quality correction for workpiece contour extraction and positioning in unstructured scenes [13640-26]
13640 OE	Multifeature fusion vehicle recognition method based on visual information [13640-20]

13640 OF	A review of image stitching algorithms based on internal thread [13640-18]
13640 0G	Polyp segmentation with balanced context attention and feature enhancement module [13640-22]
13640 OH	Strip-mining monitoring system development based on drone tilt photogrammetry [13640-17]
13640 01	Adaptive object detection based on cross-domain information decoupling [13640-16]
13640 OJ	CWTNet: a building extraction method combining convolution and transformer [13640-9]
13640 OK	An adaptive tracking method based on trajectory-oriented estimation [13640-14]
13640 OL	VMFusion: Vision Mamba fusion for multifocus image fusion [13640-15]
13640 OM	Ship wake target detection in C-SAR image based on YOLOv8-OBB [13640-2]
13640 ON	A semi-supervised cropland changes detection method based on consistency regularization [13640-19]