PROCEEDINGS OF SPIE

SPIDigitalLibrary.org/conference-proceedings-of-spie

Front Matter: Volume 11398

, "Front Matter: Volume 11398," Proc. SPIE 11398, Geospatial Informatics X, 1139801 (18 June 2020); doi: 10.1117/12.2572627

SPIE.

Event: SPIE Defense + Commercial Sensing, 2020, Online Only

PROCEEDINGS OF SPIE

Geospatial Informatics X

Peter J. Doucette
Joshua D. Harguess
Kannappan Palaniappan
Gunasekaran Seetharaman
Editors

27 April – 8 May 2020
Online Only, United States

Sponsored and Published by
SPIE

Volume 11398

Proceedings of SPIE 0277-786X, V. 11398

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

Geospatial Informatics X, edited by Peter J. Doucette, Joshua D. Harguess, Kannappan Palaniappan,
Gunasekaran Seetharaman, Proc. of SPIE Vol. 11398, 1139801 · © 2020 SPIE
CCC code: 0277-786X/20/\$21 · doi: 10.1117/12.2572627

Proc. of SPIE Vol. 11398 1139801-1

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 *Geospatial Informatics X*, edited by Peter J. Doucette, Joshua D. Harguess, Kannappan Palaniappan, Gunasekaran Seetharaman, Proceedings of SPIE Vol. 11398 (SPIE, Bellingham, WA, 2020) Seven-digit Article CID Number.

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510635739

ISBN: 9781510635746 (electronic)

Published by

SPIE

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

Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

SPIE.org

Copyright © 2020, Society of Photo-Optical Instrumentation Engineers.

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 copying fees. The Transactional Reporting Service base fee for this volume is \$21.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online 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. The CCC fee code is 0277-786X/20/\$21.00.

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: *Proceedings of SPIE* follow an e-First publication model. A unique citation identifier (CID) number is assigned to each article 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

UAV SENSING AND ANALYSIS I

- 11398 02 **Developing structure-from-motion models from applied streetview and UAV images** [11398-1]
- 11398 03 **Aerial 3D building reconstruction from RGB drone imagery** [11398-2]
- 11398 04 **Evaluation of different contour extraction approaches in the context of contour based image registration** [11398-3]

UAV SENSING AND ANALYSIS II

- 11398 06 **Characterization of unmanned aerial systems (UAS) geometry using feeds from fixed video cameras** [11398-5]
- 11398 07 **UAV detection with a dataset augmented by domain randomization** [11398-6]
- 11398 08 **Deep net route generation faster than a bullet** [11398-7]
- 11398 09 **Design of trace-based NS-3 simulations for UAS video analytics with geospatial mobility** [11398-8]
- 11398 0A **DeepOSM-3D: recognition in aerial LiDAR RGBD imagery** [11398-9]

FULL MOTION VIDEO ANALYTICS

- 11398 0C **Proper synchronization of geospatial metadata in motion imagery and its evaluation** [11398-11]
- 11398 0E **Maritime LOD balancing: evaluating the effect of level of detail on ship classification** [11398-13]

ENVIRONMENTAL AND GEOSPATIAL ANALYTICS

- 11398 0F **Robust terrain classification of high spatial resolution remote sensing data employing probabilistic feature fusion and pixelwise voting** [11398-14]
- 11398 0H **Deep learning model for accurate vegetation classification using RGB image only** [11398-16]

11398 OI **Performance comparison of different inpainting algorithms for accurate DTM generation**
[11398-17]

GEOSPATIAL INFORMATICS APPLICATIONS

11398 OJ **An exploration of NIIRS, image quality, and machine learning** [11398-18]

11398 OK **GAN-based unpaired image-to-image translation for maritime imagery** [11398-19]

11398 OL **Passive identification of vessel type through track motion analysis** [11398-20]

11398 OM **Long time-series analysis of urban development based on effective building extraction**
[11398-22]