BigSpatial 2019

Proceedings of the 8th ACM SIGSPATIAL International Workshop on Analytics for Big Geospatial Data

(BigSpatial 2019)

Nov 5th, 2019, Chicago, IL, USA

Editor(s):

Varun Chandola, State University of New York at Buffalo, NY, USA Ranga Raju Vatsavai, North Carolina State University, NC, USA Ashwin Shashidharan, Environmental Systems Research Institute, CA, USA The Association for Computing Machinery, Inc. 2 Penn Plaza, Suite 701 New York, NY 10121-0701

Copyright © 2019 by the Association for Computing Machinery, Inc. Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, to republish, to post on servers, or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from Publications Dept., ACM, Inc., Fax +1 (212) 869-0481, or permissions@acm.org.

For other copying of articles that carry a code at the bottom of the first or last page, copying is permitted provided that the per-copy fee indicated in the code is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

Notice to Past Authors of ACM-Published Article

ACM intends to create a complete electronic archive of all articles and/or other material previously published by ACM. If you have written a work that was previously published by ACM in any journal or conference proceedings prior to 1978, or any SIG Newsletter at any time, and you do NOT want this work to appear in the ACM Digital Library, please inform permissions@acm.org, stating the title of the work, the author(s), and where and when published.

ISBN: 978-1-4503-6966-4

FOREWORD

Big data is emerging as an important area of research for data researchers and scientists. This area has seen significant interest from the industry and federal agencies alike, as evidenced by the recent White House initiative on "Big data research and development". Within the realm of big data, spatial and spatiotemporal data are one of fastest growing types of data. With advances in remote sensors, sensor networks, and the proliferation of location sensing devices in daily life activities and common business practices, the generation of disparate, dynamic, and geographically distributed spatiotemporal data has exploded in recent years. In addition, significant progress in ground, air and space-borne sensor technologies has led to an unprecedented access to earth science data for scientists from different disciplines, interested in studying the complementary nature of different parameters. Today, analyzing this data poses a massive challenge to researchers.

The 8th workshop on Analytics for Big Geospatial Data (BIGSPATIAL 2019) builds on the success of the previous seven editions to bring together researchers from academia, government and industrial research labs that are working in the area of spatial analytics with an eye towards massive data sizes. The main motivation for this workshop stems from the increasing need for a forum to exchange ideas and recent research results, and to facilitate collaboration and dialog between academia, government, and industrial stakeholders. The workshop continues to provide a platform for researchers and practitioners engaged in addressing the big data aspect of spatial and spatio-temporal data analytics to present and discuss their ideas.

This year we received 8 technical submissions out of which 4 were selected for full presentations. The technical program also consisted of an invited talk. We hope that the BIGSPATIAL workshop will continue to provide a leading international forum for researchers, developers, and practitioners in the field of data analytics for big geospatial data to identify current and future areas of research.

Varun Chandola, State University of New York at Buffalo, NY, USA Ranga Raju Vatsavai, North Carolina State University, NC, USA Ashwin Shashidharan, Environmental Systems Research Institute, CA, USA

ACKNOWLEDGEMENTS

We would like to thank the authors of all submitted papers. Their innovation and creativity have resulted in a strong technical program. We are highly indebted to the program committee members, whose reviewing efforts ensured in selecting a competitive and strong technical program. We would like to express our sincere gratitude to the invited speakers.

ORGANIZERS

WORKSHOP CHAIRS:

Varun Chandola, State University of New York at Buffalo, NY, USA Ranga Raju Vatsavai, North Carolina State University, NC, USA Ashwin Shashidharan, Environmental Systems Research Institute, CA, USA

PUBLICATIONS COORDINATOR:

Syed Mohammed Arshad Zaidi, State University of New York at Buffalo, NY, USA

PROGRAM COMMITTEE:

- Alexandre Sorokine, Oak Ridge National Laboratory
- **Pradeep Mohan**, SAS Institute Inc.
- Nicolas Meger, Université de Savoie
- Ki-Joune Li, Pusan National University
- Eun-Hye Yoo, University at Buffalo
- Alessandra Raffaeta', Universita' Ca' Foscari Venezia
- Vandana Janeja, University of Maryland Baltimore County
- Surya Durbha, Indian Institute of Technology Bombay
- **Anthony Filippi**, Texas A&M University
- Monica Wachowicz, University of New Brunswick
- Alfredo Cuzzocrea, University of Calabria
- Giuseppe Manco, ICAR-CNR
- **Goo Jun**, University of Texas Health Science Center
- **Fusheng Wang**, Stony Brook University
- Pang-Ning Tan, Michigan State University
- Xun Zhou, The University of Iowa
- **Jianting Zhang**, City University of New York
- Arie Croitoru, George Mason University
- Yan Huang, University of North Texas

SPONSORS















