

The 9th ACM SIGSPATIAL International Workshop on Analytics for Big Spatial Data (BigSpatial 2020) November 3, 2020

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Since the “Big Data Research and Development Initiative” launched by the White House in 2012, big data has received great attention from industry and federal agencies alike emerging as an important area of research for scientists worldwide. Within the realm of big data, spatial and spatiotemporal data continues to be among the 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 the ground, air- and space-borne sensor technologies have led to 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 workshop series on Analytics for Big Geospatial Data (BigSpatial), has become one of the key meeting points for researchers in the area of big geospatial data analytics since 2012. Held every year, in conjunction with the annual ACM SIGSPATIAL conference, this meeting has found strong support from researchers in government, academia, and industry. The workshop provides a platform for researchers and practitioners engaged in addressing the big data aspect of spatial and spatiotemporal data analytics to present and discuss their ideas. It brings together researchers from academia, government and industry, who have been working in the area of spatial analytics with an eye towards massive data sizes.

Building on the success of the previous eight editions, the 9th workshop on Analytics for Big Geospatial Data (BigSpatial 2020) was held in conjunction with the 28th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems on November 3, 2020. The main motivation of the workshop as has been in previous years was to serve as a forum to exchange ideas, present recent research results and to facilitate collaboration and dialog between academia, government, and industrial stakeholders. However, due to the COVID-19 situation, in-person meetings weren’t possible and BigSpatial 2020 was organized as a half-day online-only event.

This year we received 9 technical submissions out of which 6 were accepted as full papers and 1 as a short paper. The accepted papers were presented over three sessions, broadly covering the areas of trajectory analysis [1], deep learning techniques [2, 3, 4, 5] and high performance visualization [6, 7] for geospatial data. The technical program also consisted of two invited talks. The first invited talk by Aniket Mitra from HERE Technologies, titled, “MoveTK: The Movement Toolkit”, showcased an open-source toolkit for analyzing movement data with state of the art algorithms for computational movement analysis. The second talk by Dr. Ranga Raju Vatsavai from North Carolina State University, titled, “GeoAI: Recent Advances in Machine Learning for Global Earth Observations”, explored recent advances in AI and machine learning for monitoring natural and man-made structures at local and global scales. The workshop was well-attended with an average of 38 participants in every session and a peak of 50 participants during the invited talks.

We thank all the speakers, authors and attendees who participated in the workshop. We express our sincere gratitude to Aniket Mitra and Dr. Ranga Raju Vatsavai for their insightful presentations and for setting the tone for the workshop sessions. Also, a special note of thanks to the program committee members, whose reviewing efforts ensured in selecting a competitive and strong technical program. We hope the BigSpatial workshop series will continue to provide a leading international forum for researchers, developers, and practitioners in the field of big geospatial data analytics to identify current and future areas of research.

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