

CFP: The 3rd AAG Symposium on GeoAI and Deep Learning for Geospatial Research

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In today's era of big data, advanced algorithms, and immense computational power, artificial intelligence (AI) is bringing tremendous opportunities and challenges to geospatial research. Big data enables computers to observe and learn the world from many angles, while high performance machines support the training development and application deployment of AI models within a reasonable amount of time. Recent years have witnessed significant advances in the integration of geography and AI in both academia and industry, and the outcome is an exciting and transdisciplinary area -- GeoAI. There have already been many successful studies. Focusing on modeling the physical nature, a recent publication in PNAS has shown that deep learning can improve the representation of clouds that are smaller than the grid resolutions of climate models. Examining the human society, AI and natural language processing methods, such as word embeddings, are helping quantify changes in stereotypes and attitudes toward women and ethnic minorities over 100 years in the United States. There are also many other applications that effectively integrate AI with problems in geospatial studies, such as vehicle trajectory prediction and high-definition mapping, indoor navigation, historical map digitizing, gazetteer conflation, geographic feature extraction, geo-ontologies, and place understanding.

Building on the great success of the 1st and 2nd symposiums at AAG, we are organizing the **3rd AAG Symposium on GeoAI and Deep Learning for Geospatial Research** focusing on the current status, recent advances, and possible future directions of this exciting research theme at the 2020 AAG Annual meeting, Denver, Colorado, April 6-10, 2020. We aim to bring together geographers, GI scientists, spatial modeling experts, computer scientists, spatial data scientists, epidemiologists, urban planners, transportation professionals, and many others to discuss this rapidly developing research frontier. In particular, we hope to provide a venue for researchers from all geospatial disciplines to start the dialog on how to fertilize this exciting field of GeoAI, how can we better prepare our students with essential knowledge and skills, and how can we foster cross-discipline collaborations.

Sessions (sessions can be found at: <http://bit.ly/2luO2eZ>)

- GeoAI Symposium: **AI for Mapping** (Contact: Samantha Arundel, sarundel@usgs.gov, Wenwen Li, wenwen@asu.edu, Yao-Yi Chiang, yaoyic@dornsife.usc.edu)

- GeoAI Symposium: **AI for Geographic Information Retrieval and Geo-Text Analysis** (Contact: Morteza Karimzadeh, karimzadeh@colorado.edu; Yingjie Hu, yhu42@buffalo.edu)
- GeoAI Symposium: **Statistical Methods and Deep Learning for Trajectory Data Analysis** (Contact: Sean C. Ahearn, sahearn@hunter.cuny.edu; Somayeh Dodge, sdodge@ucsb.edu; Song Gao, song.gao@wisc.edu; Chaogui Kang, cgtkang@whu.edu.cn)
- GeoAI Symposium: **Geospatial and Spatiotemporal Ontology and Semantics** (Contact: Alex Sorokine, SorokinA@ornl.gov; Chen-Chieh Feng, geofcc@nus.edu.sg; Jeon-Young Kang, geokang@illinois.edu)
- GeoAI Symposium: **Geospatial Knowledge Graphs** (Contact: Gengchen Mai, gengchen_mai@ucsb.edu; Krzysztof Janowicz, janowicz@ucsb.edu)
- GeoAI Symposium: **AI for Spatial Optimization** (Contact: Kai Cao, geock@nus.edu.sg; Bo Huang, bohuang@cuhk.edu.hk)
- GeoAI Symposium: **Deep Learning of Geospatial Patterns & Applications** (Contact: Rui Zhu, ruizhu@geog.ucsb.edu, Guofeng Cao, guofeng.cao@ttu.edu and Kevin Mwenda, kevin_mwenda@brown.edu)
- GeoAI Symposium: **Big Data and AI for Natural Hazards** (Contact: Qunying Huang, qhuang46@wisc.edu; Zhenlong Li, zhenlong@sc.edu; Xinyue Ye, xinyue.ye@njit.edu)
- GeoAI Symposium: **GeoAI & Sensor Analysis on Health** (Contact: Eun-Kyeong Kim, eun-kyeong.kim@geo.uzh.ch)
- GeoAI Symposium: **GeoAI and Deep Learning Symposium: Spatial-Temporal Modeling and Data Mining I** (Contact: Yi Qiang, yiqiang@hawaii.edu; Yihong Yuan, y_y18@txstate.edu; Ying Song, yingsong@umn.edu)
- GeoAI Symposium: **GeoAI and Deep Learning Symposium: Spatial-Temporal Modeling and Data Mining II** (Contact: Diep Dao, tdao@uccs.edu; Dan Runfola, danr@wm.edu)
- GeoAI Symposium: **Spatial and Spatio-Temporal Machine Learning: Methods and Case Studies** (Tutorial Session, Contact: Orhun Aydin, oaydin@usc.edu)
- GeoAI Symposium: **Whether and how will AI transform geospatial research?** (Panel Session, Contact: Michael F. Goodchild, good@geog.ucsb.edu)
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To present your research in our sessions, please submit your abstract through AAG website (<http://www.aag.org/cs/annualmeeting/register>) and send your **PIN** to the above session organizers **by October 30, 2019**. We are also accepting session proposals, please contact the symposium chairs if you want to include a session of related themes to our symposium.

Program Committee:

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This symposium is sponsored by: AAG GIS, CI and SAM specialty groups