CFP: 2023 AAG Symposium on GeoAI and Deep Learning for Geospatial Research

AAG Annual Meeting, Denver, March 23-27, 2023

Lead Organizers:
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The past few years have witnessed significant advances in the interdisciplinary field of GeoAI. With the increasing availability of geospatial big data, advances in hardware computing, and novel AI models, researchers have integrated these three to address some of the most challenging problems facing our society and deliver positive social impacts. Examples include improving individual and population health, enhancing community resilience in natural disasters, predicting spatiotemporal traffic flows, forecasting the impacts of climate change on ecosystems, building smart and connected communities and cities, and supporting humanitarian mapping and policymaking. From a perspective of method development, researchers have infused spatial principles into AI models, and developed spatially explicit AI models that can better address geospatial problems, such as enhancing geoprivacy protection and better representing geographic features in embedding space. Great research efforts have also been made to increase the explainability of GeoAI models for supporting decision making, and identify and reduce potential biases in training data and the trained models.

Building on the success of previous AAG GeoAI symposiums, the 2023 Symposium aims to bring together geographers, GI scientists, remote sensing scientists, computer scientists, health researchers, urban planners, transportation professionals, disaster response experts, ecologists, earth system scientists, stakeholders, and many others to share recent research outcomes and discuss challenges for GeoAI research in the following years.

Sessions (all sessions can be accessed at: https://tinyurl.com/ywwv29cs):
Confirmed sessions:
- GeoAI and Deep Learning Symposium: **Intelligent Geospatial Analytics** (Paper session; In-person session; Contact: Di Zhu, dizhu@umn.edu, *University of Minnesota*; Co-organizers: Guofeng Cao, *University of Colorado, Boulder*; Song Gao, *University of Wisconsin, Madison*)

- GeoAI and Deep Learning Symposium: **GeoAI for Feature Detection and Recognition** (Paper session; In-person session; Contact: Sam Arundel, sarundel@usgs.gov, *US Geological Survey*; Co-organizer: Wenwen Li, *Arizona State University*)

- GeoAI and Deep Learning Symposium: **Emerging Geo-Data Applications in Human Mobility Analysis** (Paper session; In-person session; Contact: Xiao Li, xiao.li@ouce.ox.ac.uk, *University of Oxford*; Co-organizers: Xiao Huang, *University of Arkansas*, Haowen Xu, *Oak Ridge National Laboratory*, Yuhao Kang, *University of Wisconsin, Madison*)

- GeoAI and Deep Learning Symposium: **Spatial Data Science for Ecosystem Conservation and Biodiversity** (Contact: Orhun Aydin, orhun.aydin@slu.edu, *Saint Louis University*; Somayeh Dodge, University of California Santa Barbara)

- GeoAI and Deep Learning Symposium: **GeoAI for Disaster Resilience I** (Paper session; In-person session; Contact: Bing Zhou, spgbarrett@tamu.edu, *Texas A&M University*. Co-organizers: Lei Zou, *Texas A&M University*; Yingjie Hu, *University at Buffalo*; Marcela Suárez, *Penn State University*)

- GeoAI and Deep Learning Symposium: **GeoAI for Disaster Resilience II** (Paper session; In-person session; Contact: Qunying Huang, qhuang46@wisc.edu, *University of Wisconsin, Madison.* Co-organizers: Yi Qiang, *University of South Florida;* Manzhu Yu, *Penn State University;* Morteza Karimzadeh*, University of Colorado Boulder*)

- GeoAI and Deep Learning Symposium: **Urban Visual Intelligence** (Paper session; In-person session; Contact: Yuhao Kang, yuhao.kang@wisc.edu, *University of Wisconsin, Madison;* Co-organizer: Fan Zhang, cefzhang@ust.hk, *Hong Kong University of Science and Technology*)

- GeoAI and Deep Learning Symposium: **Advances in GeoAI methods and spatially explicit models** (Paper session; In-person session; Contact: Gengchen Mai, gengchen.mai@gmail.com, *University of Georgia;* Co-organizers: Angela Yao*, University of Georgia;* Yao-Yi Chiang*, University of Minnesota-Twin Cities;* Zhangyu Wang*, University of California Santa Barbara*)

- GeoAI and Deep Learning Symposium: **GeoAI for Cartography and Mapping** (Paper session; In-person session; Contact: Yao-Yi Chiang, yaoyi@umn.edu, *University of Minnesota-Twin Cities;* Co-organizer*: Jina Kim, University of Minnesota*)

- GeoAI and Deep Learning Symposium: **Geoprivacy and Ethics in Geospatial Data and GeoAI** (Paper session; In-person session; Contact: Hongyu Zhang, hongyu.zhang@mcgill.ca, McGill University; Co-organizers: Junghwan Kim, *Virginia Tech*; Majid Hojati, *Wilfrid Laurier University*)

- GeoAI and Deep Learning Symposium: **Point Cloud Application for Natural Resource Management** (Paper session; In-person session; Contact: Tao Liu, taoliu@mtu.edu,

Michigan Technological University; Co-organizer: Yanjun Su, *Chinese Academy of Sciences*)

- GeoAI and Deep Learning Symposium: **Data-driven Approaches for Planning Smart and Resilient Cities** (Paper session; In-person session; Contact: Avipsa Roy, avipsar@uci.edu, *University of California, Irvine*; Co-organizer: Yingjie Hu, *University at Buffalo*)

- GeoAI and Deep Learning Symposium: **A 5-year Milestone: Advances and Limitations in GeoAI Research So Far** (Panel discussion session; in-person session; The organization team; Panelists: Michael Goodchild, *University of California Santa Barbara*, A-Xing Zhu, *University of Wisconsin, Madison*, May Yuan, *University of Texas Dallas*, Orhun Aydin, *Saint Louis University*)

To present your research in one of these sessions, please register and submit your abstract at www.aag.org/events/aag2023. When you receive confirmation of your submission, please forward your confirmation email to the session organizers **by Nov. 10, 2022**.

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