2024 ICA Workshop on AI, Geovisualization, and Analytical Reasoning ◆ CartoVis24

Date: **Saturday 7 September 2024**
Location: **University of Warsaw, Poland**

It has been 20 years since visual analytics was first established as the science of analytical reasoning facilitated by interactive maps and visualizations. Since then, new models have been proposed to understand cognitive reasoning processes, new technologies have been released to support interactive, mobile, and immersive mapping, and new methods have been developed to examine and evaluate user experiences with analytical support systems. Given these rapid developments in the recent years, we call for research papers in cartography, visualization, geoAI, and allied design fields to capture the state-of-science on visuospatial analytical reasoning and its various contexts, including geovisualization and the role of artificial intelligence (AI).

Creating the conditions in which users are able to reason about spatial information is a difficult task, and there are many challenges to overcome. Analytical reasoning goes beyond simply noticing a pattern, and invokes a complex set of processes that aim to explain what has been seen, or to predict what will happen next. On the other hand, geovisualization makes geographic data actionable, transforming it to become visually-accessible and supporting iterative processes of exploration and analysis.

In the scope of this workshop, we invite short submissions (300-word abstracts or 2-page short papers). These submissions are expected to report on ongoing and emergent work that aims to tackle one of the many dimensions of cartography: specifically, we welcome those that relate to supporting geovisualization and analytical reasoning, including approaches that leverage AI methods applied at various stages: data processing, analysis, visualization generation and interpretation, as well as support in user perception interpretation. Broadly speaking, we are seeking work that focuses on understanding users, their cognitive processes, and/or their interactions with visual representations and computational methods via maps or geographic visualization. We welcome research that tackles these and related problem areas through computational, representational, artificial intelligence (AI), ethical, or contextual methodological lenses. This workshop will provide a forum in which new approaches and ideas can be discussed and where new research collaborations can be formed.

<u>Early stage work is explicitly encouraged</u>, especially by junior scholars or those who might be new to cartography.

This workshop represents the joint efforts of the <u>Department of Geoinformatics, Cartography, and Remote Sensing at University of Warsaw, Faculty of Geography and Regional Studies</u> in collaboration with the International Cartographic Association Commissions on <u>Cognitive Issues in Geographic Information Visualization</u>, <u>Geovisualization</u>, and <u>User Experience (UX)</u>, as well as the ICA <u>Next Generation Cartographers Working Group</u>.

FORMAT

We invite two kinds of contributions: First, we seek 2-page short research papers. These 2-page short papers should be prepared using the ACM Proceedings format. 2-page short paper submissions, if accepted, will have 10 minute slots for presentation and discussion. Second, we seek 300-word abstracts on work in progress. Abstracts will receive 5 minutes for a lightning talk presentation with discussion following all lightning talks. Selected papers may be encouraged for expansion into a special journal issue, depending on participation.

Short papers and abstracts will be reviewed by two program committee members to gauge appropriateness for the workshop.

Relevant Topics Include:

- Geovisualization and visual analytics
- Artificial Intelligence (AI) approaches in cartography and geovisualization
- Storytelling for improved comprehension of geographic processes
- Computational methods and algorithms in spatial analysis
- User-centered design
- Ethics, trust, and equity in cartography and geovisualization
- Visuospatial cognition, reasoning, and sensemaking
- Individual and group differences in spatial abilities
- Wayfinding and navigation
- Reasoning on the go with augmented and mixed realities
- Visual variables and visual semiotics
- Human-computer interaction
- Immersive analytics
- Explainable AI in geovisualization
- Spatial decision support systems

SUBMISSION DETAILS & IMPORTANT DATES

Papers and abstracts should be submitted using our EasyChair site located at:
https://easychair.org/conferences/?conf=cartovis24.

Short paper (2 pages) deadline: **15 May 2024**
Abstract (300 words) deadline: **1 June 2024**

Notification of acceptance:	**15 June 2024**
Registration deadline:	**15 July 2024**

If you need a visa to Poland to participate, or have other questions about the workshop, please contact the local organizers at carto-vis-workshop@uw.edu.pl.

REGISTRATION AND COSTS

Please visit our workshop website for registration details: http://carto-vis-workshop.uw.edu.pl/

Every effort is being made to offer this workshop at a low cost, and we expect registration fees to be minimal with an optional group dinner taking place in the evening after the workshop concludes.

PROGRAM COMMITTEE

Arzu Çöltekin (University of Applied Sciences and Arts Northwestern Switzerland)
Izabela Gołębiowska (University of Warsaw)
Amy Griffin (RMIT University)
Pyry Kettunen (Finnish Geospatial Research Institute, FGI NLS)
Jolanta Korycka-Skorupa (University of Warsaw)
Florian Ledermann (TU Vienna)
Anthony Robinson (Pennsylvania State University)
Robert Roth (University of Wisconsin—Madison)
Katarzyna Słomska-Przech (Tadeusz Manteuffel Institute of History, PAS)