Armand Kapaj

Spatial Cognition Researcher

University of Zurich
Department of Geography
Geographic Information Visualization
& Analyses Research Group

e-mail: armand.kapaj@geo.uzh.ch

Education

Ph.D. in Geography — Department of Geography and Digital Society Initiative, University of Zurich, *Zurich, Switzerland*

February 2019 - May 2023

Joint Master of Science in Cartography — TU Munich and TU Dresden (Germany), TU Vienna (Austria), University of Twente (The Netherlands)

October 2016 - September 2018

Master of Science in Geography — University of Tirana, *Tirana, Albania*

October 2011 - October 2013

Bachelor of Science in Geography — University of Tirana, *Tirana, Albania*

October 2007 - April 2011

Experiences

Senior Scientist — Department of Geography, University of Zurich, *Zurich, Switzerland*

January 2024 – Present

Postdoctoral Researcher — Department of Geography, University of Zurich, *Zurich, Switzerland*

August 2023 – December 2023

Research Assistant — Department of Geography, University of Zurich, *Zurich, Switzerland*

May 2023 – July 2023

Doctoral Student Researcher — Department of Geography, University of Zurich, *Zurich, Switzerland*

February 2019 – April 2023

Lecturer of GIS Workshop — University Research Priority Program (URPP) Language and Space, University of Zurich, *Zurich, Switzerland*

June 2022

Teaching Assistant of the MSc Geovisualization course — Department of Geography, University of Zurich, *Zurich, Switzerland*

February 2019 – June 2021

Cartographer — 1001 Albanian Adventures Travel Agency, *Berat, Albania*

September 2019

Skills

Cartography

Geovisualization

Spatial Cognition

Experimental Design

UX & UI Design

GIS Platforms:

- ESRI: ArcGIS Desktop, ArcGIS Pro, ArcGIS Indoors, CityEngine, ArcGIS Online
- QGIS
- Mapbox
- ILWIS
- Grass GIS
- PostGIS

Programming Languages:

- R
- Git
- R Shiny
- Matlab
- JavaScript
- Java
- SQL
- KML
- HTML & CSS

Languages:

- Albanian (native language)
- English (full proficiency)
- German (limited proficiency)

Publications

Kapaj, A., Hilton, C., Lanini-Maggi, S., & Fabrikant, S. I. (2024). The influence of landmark visualization style on task performance, visual attention, and spatial learning in a real-world navigation task. *Spatial Cognition & Computation*, 1–41. https://doi.org/10.1080/13875868.2024.2328099

Hilton, C., **Kapaj, A.,** & Fabrikant, S. I. (2024). Fixation-related potentials during mobile map assisted navigation in the real world: The effect of landmark visualization style. *Attention, Perception, & Psychophysics*. https://doi.org/10.3758/s13414-024-02864-z

Kapaj, A. (2023). Landmark Visualization on Mobile Maps – Effects on Visual Attention, Spatial Learning, and Cognitive Load during Map-Aided Real-World Navigation of Pedestrians. *(Doctoral dissertation, University of Zurich)*. https://doi.org/10.5167/uzh-234860

Hilton, C., **Kapaj, A.,** & Fabrikant, S. I. (2023). Landmark Sequence Learning from Real-World Route Navigation and the Impact of Navigation Aid Visualisation Style. *Journal of Cognition*, 6(1): 41, pp. 1–8. https://doi.org/10.5334/joc.307

Kapaj, A., Lanini-Maggi, S., Hilton, C., Cheng, B., & Fabrikant, S. I. (2023). How does the design of landmarks on a mobile map influence wayfinding experts' spatial learning during a real-world navigation task? *Cartography and Geographic Information Science*, 50(2), 197–213. https://doi.org/10.1080/15230406.2023.2183525

Kapaj, A., Lin, E., & Lanini-Maggi, S. (2022). The effect of abstract vs. realistic 3D visualization on landmark and route knowledge acquisition. *In T. Ishikawa, S. I. Fabrikant, & S. Winter (Eds.), Proceedings, 15th International Conference on Spatial Information Theory (COSIT 2022)* (Vol. 240, pp. 15:1-15:8), Kobe, Japan. https://doi.org/10.4230/LIPIcs.COSIT.2022.15 [Best Short Paper Award]

Kapaj, A. (2022). Landmark visualization on mobile navigation systems: assessing the effect of realism on pedestrians' visual attention, spatial learning, and cognitive load. *In Doctoral Mentoring Programme of the 15th International Conference in Spatial Information Theory (COSIT 2022)*, Kobe, Japan, September 5-9.

Kapaj, A., Lanini-Maggi, S., & Fabrikant, S. I. (2021a). The impact of landmark visualization style on expert wayfinders' cognitive load during navigation. *In Abstracts of the 30th International Cartographic Conference*, Florence, Italy, December 14-18. https://doi.org/10.5194/ica-abs-3-138-2021

Kapaj, A., Lanini-Maggi, S., & Fabrikant, S. I. (2021b). The influence of landmark visualization style on expert wayfinders' visual attention during a real-world navigation task. *In Proceedings of the 11th International Conference on GIScience*, Online, September 27-30. https://doi.org/10.25436/E2NP44

Kapaj, A. (2019). Landmark visualization on mobile devices for effective pedestrian navigation: Assessing the effects of realism for spatial learning. *In Doctoral Colloquium of the 14th International Conference in Spatial Information Theory (COSIT 2019)*, Regensburg, Germany, September 9-13.

Wilkening, J., **Kapaj, A.,** & Cron, J. (2019). Creating a 3D Campus Routing Information System with ArcGIS Indoors. *Dreiländertagung der DGPF, der OVG und der SGPF* in Wien, Österreich–Publikationen der DGPF, 28.

Invited talks

Kapaj, A. (2023). The interaction between landmark visualization style, spatial abilities, and visual attention on wayfinders' spatial learning during real-world map-aided navigation. *Chair of Biological Psychology and Neuroergonomics, Institute of Psychology and Ergonomics, Technical University of Berlin.*

Kapaj, A. (2022). The impact of landmark visualization style on wayfinders' spatial learning, visual attention, and cognitive load during navigation. *Digital Society Initiative Mobility Community.*

Academic achievements

Co-Chair of the International Cartographic Association (ICA) Commission on Ubiqutuous Mapping: https://icaci.org/commissions/

Member of the Mobility Community of the University of Zurich Digital Society Initiative: https://mobility.dsi.uzh.ch/

Reviewer for the following scientific journals: *Spatial Cognition & Computation*, *Cartography and Geographic Information Science*, *Geocarto International*, *Spatial Science*, and *International Journal of Geographic Information Science*.

Research Visit at the *Institute of Cognitive Psychology* at *Leiden University*, Netherlands.

Best Short Paper at the *15th International Conference on Spatial Information Theory (COSIT 22)*, Kobe, Japan: https://doi.org/10.4230/LIPIcs.COSIT.2022.15.

Erasmus Mundus Scholarship awarded by the *European Commission* for attending the *International Master of Science in Cartography*.

Scholarship and Gold Medal awarded from the *University of Tirana* for achieving the highest results (GPA 10/10) during the *Master of Science in Geography*.