

# Levente Juhász, PhD

Geospatial Analytics, Technology & Open Research (GATOR)  
Fort Lauderdale Research and Education Center  
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## RESEARCH FOCUS AREAS

- Geospatial Analytics & AI/ML Integration
- Cloud-Native Geospatial Solutions
- Spatial Statistics & Spatial Data Science
- Spatial Databases & Scalable Data Architectures
- Open Science & Open-Source Geospatial
- Applied Environmental & Societal Research

## EDUCATION

2018	<b>Ph.D. Geomatics</b>	University of Florida	Gainesville, FL
2013	<b>MSc Geography - Geoinformatics</b>	University of Szeged	Szeged, Hungary
2011	<b>BSc Geography - Geoinformatics</b>	University of Szeged	Szeged, Hungary

## EMPLOYMENT (\* denotes non-academic, industry experience)

### University of Florida

2026 - present	<b>Assistant Professor of Geospatial Analytics</b>
2026 - present	<b>Director</b> , Geospatial Analytics, Technology & Open Research (GATOR) Laboratory

### Florida International University, Miami, FL, USA

2025	<b>Research Associate Professor</b>
2019 - 2025	<b>Research Assistant Professor</b>
2023 - 2025	<b>Assistant Director of GIScience</b> , GIS Center
2022 - 2023	<b>Director (Interim)</b> , GIS Center
2019 - 2025	<b>Research Assistant Professor</b>

### Carinthia University of Applied Sciences, Villach, Austria

2018	<b>Visiting Scientist</b> , Geoinformation Technology Department
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### Mapillary (now part of Meta Platforms, Inc.), Remote

2015 - 2017	<b>Geospatial Data Scientist*</b>
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### University of Florida, Fort Lauderdale, FL, USA

2014 - 2018	<b>Graduate Research Assistant</b> , Geomatics Sciences, UF/IFAS FLREC
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### Joint Research Centre of the European Commission, Ispra, Lombardy, Italy

2014                   **Visiting Scientist**, Digital Earth & Reference Data Unit

**University of Szeged**, Szeged, Hungary

2011 - 2014       **Research Assistant**, Department of Physical Geography & Geoinformatics

**Compet-Terra Consulting Ltd.**, Szeged, Hungary

2013 - 2014       **GIS Developer\*** (full stack)

## PUBLICATIONS

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### **Peer-reviewed journal articles**

1. Parkinson, R.W., **Juhász, L.**, Wdowinski, S., Seidel, V., Fu, Z.J. (2025). Sea level rise submergence simulations suggest substantial deterioration of Indian River Lagoon ecosystem services by 2050, Florida, U.S.A. *Regional Environmental Change*. 25(2), 54. doi: [10.1007/s10113-025-02389-7](https://doi.org/10.1007/s10113-025-02389-7)
2. Parkinson, R.W., **Juhász, L.**, Xu, J., Fu, Z.J. (2024). Future Shorelines: A Living Shoreline Site Selection and Design Decision Support Tool that Incorporates Future Conditions Induced by Sea Level Rise. *Estuaries and Coasts*. 47, pp. 2641–2654. doi: [10.1007/s12237-024-01425-9](https://doi.org/10.1007/s12237-024-01425-9)
3. Hochmair, H.H., **Juhász, L.**, Kemp, T. (2024). Correctness Comparison of ChatGPT-4, Gemini, Claude-3, and Copilot for Spatial Tasks. *Transactions in GIS*. 28(7), pp. 2219-2231. doi: [10.1111/tgis.13233](https://doi.org/10.1111/tgis.13233)
4. **Juhász, L.** (2024). Assessing publication trends in selected GIScience journals. *International Journal of Geographical Information Science*. 38(8), pp. 1443-1467. doi: [10.1080/13658816.2024.2347306](https://doi.org/10.1080/13658816.2024.2347306)
5. **Juhász, L.**; Xu, J.; Parkinson, R.W. (2023). Beyond the Tide: A Comprehensive Guide to Sea Level Rise Inundation Mapping using FOSS4G. *Geomatics*. 3(4), pp. 522-540. doi: [10.3390/geomatics3040028](https://doi.org/10.3390/geomatics3040028)
6. **Juhász, L.**, Hochmair, H.H. (2023). Spatial and Temporal Analysis of Location and Usage of Public Electric Vehicle Charging Infrastructure in the United States. *GI\_Forum*. 11(1), pp. 83-100. doi: [10.1553/giscience2023\\_01\\_s83](https://doi.org/10.1553/giscience2023_01_s83)
7. Schrick-Matthews, A., Hochmair H.H., Sternikova, D., **Juhász, L.** (2023). Bicycle Trips in Endomondo, Google Maps, and MapQuest: A Comparison between South Florida and North Holland. *Transportation Letters*. 15(4), pp. 308-320. doi: [10.1080/19427867.2022.2050494](https://doi.org/10.1080/19427867.2022.2050494)
8. **Juhász, L.**, Mooney, P. (2022). “I think I discovered a military base in the middle of the ocean” - Null Island, the most real of fictional places. *IEEE Access*. 10. pp. 84147-84165. doi: [10.1109/ACCESS.2022.3197222](https://doi.org/10.1109/ACCESS.2022.3197222)
9. Hochmair, H.H., Benjamin, A., Gann, D., **Juhász, L.**, Olivas, P., Fu, Z.J. (2022). Change Analysis of Urban Tree Canopy in Miami-Dade County. *Forests*. 13(6): 949. doi: [10.3390/f13060949](https://doi.org/10.3390/f13060949)
10. Grinberger, A.Y., Minghini, M., **Juhász, L.**, Mooney, P., Yeboah, G. (2022). Bridges and Barriers: An Exploration of Engagements of the Research Community with the OpenStreetMap Community. *ISPRS International Journal of Geo-Information*. 11(1): 54. doi: [10.3390/ijgi11010054](https://doi.org/10.3390/ijgi11010054)
11. **Juhász, L.**, Hochmair, H.H., Aguilar de Santana, S., Fu, Z. (2020). Sea Level Rise Impact Assessment Tool – A Web-Based Application for Community Resilience in Coral Gables, Florida. *International Journal of Spatial Data Infrastructures Research*. 15(1): pp. 36-55. doi: [10.2902/1725-0463.2020.15.art2](https://doi.org/10.2902/1725-0463.2020.15.art2)
12. Mooney, P., **Juhász, L.** (2020). Mapping COVID-19: How online maps contribute to the infodemic. *Dialogues in Human Geography*. 10(2): pp. 265 - 270. doi: [10.1177/2043820620934926](https://doi.org/10.1177/2043820620934926)
13. **Juhász, L.**, Novack, T., Hochmair, H.H., Qiao, S. (2020). Cartographic Vandalism in the Era of Location-Based Games—The Case of OpenStreetMap and Pokémon GO. *ISPRS International Journal of Geo-information*. 9(4): 197. doi: [10.3390/ijgi9040197](https://doi.org/10.3390/ijgi9040197)

14. **Juhász, L.**, Hochmair H.H. (2020). Studying Spatial and Temporal Visitation Patterns of Points of Interest Using SafeGraph Data in Florida. *GI\_Forum*. 8(1): pp. 119-136. doi: [10.1553/giscience2020\\_01\\_s119](https://doi.org/10.1553/giscience2020_01_s119)
15. Kovacs-Györi, A., Ristea, A., Havas, C., Mehaffy, M., Hochmair, H., Resch, B., **Juhász, L.**, Lehner, A., Ramasubramanian, L., Blaschke, T. (2020). Opportunities and challenges of geospatial analysis for promoting urban livability in the era of big data and machine learning. *ISPRS International Journal of Geo-Information*. 9(12): 752. doi: [10.3390/ijgi9120752](https://doi.org/10.3390/ijgi9120752)
16. Mohammad, M.H., **Juhász, L.**, Southworth, J. (2019). Mapping Time-Space Brickfield Development Dynamics in Peri-Urban Area of Dhaka, Bangladesh. *ISPRS International Journal of Geo-Information*. 8(10):447. doi: [10.3390/ijgi8100447](https://doi.org/10.3390/ijgi8100447)
17. **Juhász, L.**, Hochmair, H.H. (2019). Comparing the Spatial and Temporal Activity Patterns between Snapchat, Twitter, and Flickr in Florida. *GI\_Forum*. 7(1): pp. 134-147. doi: [10.1553/giscience2019\\_01\\_s134](https://doi.org/10.1553/giscience2019_01_s134)
18. **Juhász, L.**, Hochmair, H.H. (2018). OSM Data Import as an Outreach Tool to Trigger Community Growth? A Case Study in Miami. *ISPRS International Journal of Geo-Information*. 7 (3): 113. doi: [10.3390/ijgi7030113](https://doi.org/10.3390/ijgi7030113)
19. **Juhász, L.**, Hochmair, H.H. (2017). Where to catch 'em all? – a geographic analysis of Pokémon Go locations. *Geo-spatial Information Science*. 20(3): pp. 241-251. doi: [10.1080/10095020.2017.1368200](https://doi.org/10.1080/10095020.2017.1368200)
20. **Juhász, L.**, Rousell, A., Jokar Arsanjani, J. (2016). Technical Guidelines to Extract and Analyze VGI from Different Platforms. *Data*. 1(3):15. doi: [10.3390/data1030015](https://doi.org/10.3390/data1030015)
21. Cvetojevic, S., **Juhász, L.** and Hochmair H.H. (2016). Positional Accuracy of Twitter and Instagram Images in Urban Environments. *GI\_Forum*, 4(1): pp. 191-203. doi: [10.1553/giscience2016\\_01\\_s191](https://doi.org/10.1553/giscience2016_01_s191)
22. **Juhász, L.**, Hochmair, H.H. (2016). User Contribution Patterns and Completeness Evaluation of Mapillary, a Crowdsourced Street Level Photo Service. *Transactions in GIS*. 20 (6): pp. 925–947 doi: [10.1111/tgis.12190](https://doi.org/10.1111/tgis.12190)
23. **Juhász, L.**, Podolcsák, Á., Dolleschall, J. (2016). Open Source Web GIS Solutions in Disaster Management – with Special Emphasis on Inland Excess Water Modeling. *Journal of Environmental Geography*, 9 (1–2): pp. 15–21. doi: [10.1515/jengeo-2016-0003](https://doi.org/10.1515/jengeo-2016-0003)
24. **Juhász, L.**, Hochmair, H.H. (2015). Exploratory Completeness Analysis of Mapillary for Selected Cities in Germany and Austria. *GI\_Forum*. 3(1): pp. 535-545. doi: [10.1553/giscience2015s535](https://doi.org/10.1553/giscience2015s535)

#### **Peer-reviewed book chapters and conference papers**

25. Mooney, P., Cui, W., Guan, B., **Juhász, L.** (2025, forthcoming). What do LLMs/Chatbots think about OpenStreetMap? *Proceedings of the OSM-Science Conference at State of the Map 2025*. Manila, Philippines. October 3-5
26. Mooney, P., Cui, W., Guan, B., **Juhász, L.** (2023). Towards Understanding the Geospatial Skills of ChatGPT: Taking a Geographic Information Systems (GIS) Exam. In *6th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery (GeoAI '23), November 13, 2023, Hamburg, Germany*. ACM, New York, NY, USA. pp. 85-94. doi: [10.1145/3615886.3627745](https://doi.org/10.1145/3615886.3627745)
27. **Juhász, L.**, Mooney, P., Hochmair, H.H., Guan, B. (2023). ChatGPT as a mapping assistant: A novel method to enrich maps with generative AI and content derived from street-level photographs. *Spatial Data Science Symposium 2023 Paper Proceedings*. UC Santa Barbara Center for Spatial Studies. doi: [10.25436/E2ZW27](https://doi.org/10.25436/E2ZW27)
28. Mooney, P., & **Juhász, L.** (2022). Null Island - a node of contention in OpenStreetMap. In: Minghini, M., Liu, P., Li, H., Grinberger, A.Y., & Juhász, L. (Eds.). *Proceedings of the Academic Track at State of the Map 2022*. (pp. 23-25). Florence, Italy, 19-21 August 2022. doi: [10.5281/zenodo.7004488](https://doi.org/10.5281/zenodo.7004488)

29. Spiegelhalter, T., **Juhász, L.**, Namuduri, S. (2022). Genetic Water-Energy-Food Nexus Design Research for Miami's Greater Islands – Climate Resilient Urban Nexus Choices (CRUNCH). In: A. Melis, J. Brown & C. Coulter (Eds.). *Designing Sustainable and Resilient Cities - Small Interventions for Stronger Urban Food-Water-Energy Management*. Routledge (Taylor & Francis) (pp. 139-157); doi: [10.4324/9781003112495-16](https://doi.org/10.4324/9781003112495-16)
30. Mooney, P., Grinberger, A. Y., Minghini, M., Coetzee, S., **Juhász, L.**, & Yeboah, G. (2021). OpenStreetMap Data Use Cases During the Early Months of the COVID-19 Pandemic. In: Rajabifard, Foliente & Paez (Eds.), *COVID-19 Pandemic, Geospatial Information, and Community Resilience – Global Applications and Lessons*. CRC Press (Taylor & Francis) (pp. 171-185); doi: [10.1201/9781003181590-15](https://doi.org/10.1201/9781003181590-15)
31. **Juhász, L.** (2021). Towards understanding the temporal accuracy of OpenStreetMap: A quantitative experiment. In: Minghini, M., Ludwig, C., Anderson, J., Mooney, P., Grinberger, A.Y., (Eds.). *Proceedings of the Academic Track at the State of the Map 2021* (pp. 19-22). Online Conference, doi: [10.5281/zenodo.5112236](https://doi.org/10.5281/zenodo.5112236)
32. Spiegelhalter, T., Andia, A., **Juhász, L.**, Namuduri, S. (2020). Generative and Synthetic Biological Design Imaginations for the Miami Bay Area. In: Werner, L.C., Koering, D. (Eds.) *Anthropologic – Architecture and Fabrication in the cognitive age – Proceedings of the 38<sup>th</sup> International Online Conference on Education and Research in Computer Aided Architectural Design in Europe* (pp. 11-20) Berlin: eCAADe
33. Matthews, A., Hochmair, H.H., Strelnikova, D., **Juhász, L.** (2019). Comparing the Characteristics of Bicycle Trips between Endomondo, Google Maps, and MapQuest. *Transportation Research Board – 98th Annual Meeting*, Washington, D.C.
34. Grinberger, A.Y., Minghini, M., **Juhász, L.**, Mooney, P., Yeboah, G. (2019). Bridging the Map? Exploring Interactions between the Academic and Mapping Communities in OpenStreetMap. In: Minghini, M., Grinberger, A.Y., Juhász, L., Yeboah, G., Mooney, P. (Eds.). *Proceedings of the Academic Track at the State of the Map 2019* (pp. 1-2). Heidelberg, Germany, 21-23 September, 2019. doi: [10.5281/zenodo.3408639](https://doi.org/10.5281/zenodo.3408639)
35. Hochmair, H.H., **Juhász, L.** (2019). Analysis of Flickr, Snapchat, and Twitter use for the modeling of visitor activity in Florida State Parks. In: Kyriakidis, P., Hadjimitsis, D., Skarlatos, D. & Mansourian, A. (Eds.) *Accepted Short Papers and Posters from the 22nd AGILE Conference on Geo-information Science*. Cyprus University of Technology 17-20 June 2019, Limassol, Cyprus
36. **Juhász, L.**, Hochmair, H.H., Qiao, S., Novack, T. (2019). Exploring the Effects of Pokémon Go Vandalism on OpenStreetMap. In: Minghini, M., Grinberger, A.Y., Juhász, L., Yeboah, G., Mooney, P. (Eds.). *Proceedings of the Academic Track at the State of the Map 2019* (pp. 3-4). Heidelberg, Germany, 21-23 September, 2019. doi: [10.5281/zenodo.3386533](https://doi.org/10.5281/zenodo.3386533)
37. Hochmair, H.H., **Juhász, L.**, and Cvetojevic, S. (2018). Data Quality of Points of Interest in Selected Mapping and Social Media Platforms. In: Kiefer P., Huang H., Van de Weghe N., Raubal M. (Eds.) *Progress in Location Based Services 2018. LBS 2018. Lecture Notes in Geoinformation and Cartography* (pp. 293-313) Berlin: Springer. doi: [10.1007/978-3-319-71470-7\\_15](https://doi.org/10.1007/978-3-319-71470-7_15)
38. **Juhász, L.**, Hochmair, H.H. (2018). Cross-checking user activities in multiple geo-social media networks. In: Mansourian, A., Pilesjö, P., Harrie, L., & von Lammeren, R. (Eds.) *Geospatial Technologies for All: Short papers, posters and poster abstracts of the 21th AGILE Conference on Geographic Information Science*. Lund University 12-15 June 2018, Lund, Sweden
39. **Juhász, L.**, Hochmair, H.H. (2018). Analyzing the spatial and temporal dynamics of Snapchat. *VGI-ALIVE Pre-Conference Workshop at AGILE 2018*. 12 June 2018. Lund, Sweden.
40. **Juhász, L.**, Hochmair, H.H. (2017). How do volunteer mappers use crowdsourced Mapillary street level images to enrich OpenStreetMap? In: Bregt, A., Sarjakoski, T., Lammeren, R. van, Rip, F. (Eds.) *Societal Geo-Innovation : short papers, posters and poster abstracts of the 20th AGILE Conference*

on Geographic Information Science. Wageningen University & Research 9-12 May 2017, Wageningen, The Netherlands

41. **Juhász, L.**, Hochmair, H.H. (2016). Cross-linkage between Mapillary Street Level Photos and OSM Edits. In: T. Sarjakoski, M. Y. Santos, L. T. Sarjakoski (Eds.), *Geospatial Data in a Changing World – Lecture Notes in Geoinformation and Cartography* (pp. 141-156). Berlin: Springer. doi: [10.1007/978-3-319-33783-8\\_9](https://doi.org/10.1007/978-3-319-33783-8_9)

#### **Other peer-reviewed book chapters (geospatial workflows)**

1. Xu, J., **Juhász, L.** (2025). Assessing flood exposure in Florida and its change between 2001 and 2019 (Chapter 8). In: D. Ruddell., D. Ter-Ghazaryan (Eds.), *Security First: Geospatial Workflows for a Safe and Equitable World*. Redlands, CA, Esri Press
2. Xu, J., **Juhász, L.** (2025). Investigating urban land use, land cover & ownership of areas in sea level rise scenario (Chapter 9). In: D. Ruddell., D. Ter-Ghazaryan (Eds.), *Security First: Geospatial Workflows for a Safe and Equitable World*. Redlands, CA, Esri Press.

#### **Other publications (not peer-reviewed)**

1. Hochmair, H.H, **Juhász, L.** & Li, H. (2025). Advancing AI-Driven Geospatial Analysis and Data Generation: Methods, Applications and Future Directions (Editorial). *ISPRS International Journal of Geo-Information*. 14(2): 56. doi: [10.3390/ijgi14020056](https://doi.org/10.3390/ijgi14020056)
2. Fu, Z., **Juhász, L.**, Krefft, J., Ter-Ghazaryan, D., Guan, B. (2022). Library-Based Data Curation, Management and Interdisciplinary Research at Florida International University: Reciprocal Use of Data through Collaboration. *Proceedings of the 42nd IAUTL Conference*. Paper 2. <https://docs.lib.psu.edu/iatul/2022/clr/2>
3. Grinberger, A.Y., Liu, P., Li, H., **Juhász, L.**, & Minghini, M. (2022). OpenStreetMap, beyond just Data: The Academic Track at State of the Map 2022 (Editorial). In: Minghini, M., Liu, P., Li, H., Grinberger, A.Y., & **Juhász, L.** (Eds.). *Proceedings of the Academic Track at State of the Map 2022*, Florence, Italy, 19-21 August 2022. doi: [10.5281/zenodo.7004424](https://doi.org/10.5281/zenodo.7004424)
4. Grinberger, A.Y., Minghini, M., **Juhász, L.**, Yeboah, G., Mooney, P. (2022). Editorial: OSM Science – the Academic Study of the OpenStreetMap Project, Data, Contributors, Community, and Applications. *ISPRS International Journal of Geo-Information*. 11(4): 230. doi: [10.3390/ijgi11040230](https://doi.org/10.3390/ijgi11040230)
5. Hochmair, H. H., Benjamin, A., Gann, D., **Juhász, L.**, Olivas, P. C., & Fu, Z. (2021). Miami-Dade County Urban Tree Canopy Analysis. Final report prepared for Miami-Dade County and American Forests. doi: [10.25148/GIS.009116](https://doi.org/10.25148/GIS.009116)
6. Minghini, M., Coetzee, S., Grinberger, A.Y., Yeboah, G., **Juhász, L.**, Mooney, P. (2020) Editorial: OpenStreetMap research in the COVID-19 era. In: Minghini, M., Coetzee, S., Juhász, L., Yeboah, G., Mooney, P., & Grinberger, A. Y. (Eds.). *Proceedings of the Academic Track at the State of the Map 2020*. Online Conference, July 4-5, 2020. doi: [10.5281/zenodo.3922054](https://doi.org/10.5281/zenodo.3922054)
7. Szatmári, J., Kovács, F., van Leeuwen, B., Tobak, Z., Mezősi, G., Mucsi, L., **Juhász, L.**, Huszár, T., Kitka, G. (2014) Térinformatika a katasztrófavédelem szolgálatában (GIS for disaster management). In: Márkus, B (Ed.) *Térinformatika 2014: 20 éves a Térinformatika Tanszék*. (pp. 375-390) Székesfehérvár, Hungary (In Hungarian)

#### **Edited Volumes**

1. Minghini, M., Li, H., Grinberger, A.Y., Liu, P., Yeboah, G., **Juhász, L.**, Coetzee, S. and Mooney, P., Sarretta, A. & Anderson, J. (Eds.) *Proceedings of the OSM Science 2023*. Antwerp, Belgium, 10-12 November 2023. Available at <https://zenodo.org/records/10443403>

2. Minghini, M., Liu, P., Li, H., Grinberger, A.Y., & **Juhász, L.** (Eds.). Proceedings of the Academic Track at State of the Map 2022, Florence, Italy, 19-21 August 2022. Available at <https://zenodo.org/communities/sotm-22>
3. Minghini, M., Coetze, S., Grinberger, A.Y., **Juhász, L.**, Yeboah, G., Mooney, P. (Eds.). Proceedings of the Academic Track at the State of the Map 2020. Online Conference, July 4-6, 2020
4. Minghini, M., Grinberger, A.Y., **Juhász, L.**, Yeboah, G., Mooney, P. (Eds.). Proceedings of the Academic Track at the State of the Map 2019. Heidelberg, Germany, September 21-23, 2019

#### **Manuscripts under review and in preparation**

1. Whitman, E.R., Boussarie, G., Heithaus, M., Quiquempois, V., Chalifour, J., Bernus, J., Niviere, M., **Juhász, L.**, Kiszka, J. (under review). Influence of an invasive seagrass (*Halophila stipulacea*) on foraging habitat use and resource selection of green turtles in the eastern Caribbean. *Marine Ecology Progress Series*.
2. **Juhász, L.**, Garba, N.A., Moise, I.K., Bhoide, P.B., Clark, C., Clarke, R.D., Kikuchi, N., Brown, D.R. (under review). Beyond ZIP Codes: Census Block Group Analysis Reveals Paradoxical COVID-19 Detection Patterns in Miami-Dade. *Health & Place*
3. Gwanzura, T., Trepka, M.J., Li, T., **Juhász, L.**, Barreto, G., Burchfield, S. & Sheehan, D. (under review). The effect of vaccine availability on disparities in COVID-19 mortality among people with HIV in Florida, 2020–2021. *American Journal of Public Health*
4. Talukder, B., Mondal, A., **Juhász, L.**, Obeysekera, J., Wdowinski, S., Kanezah, R., De La Vega Taboada, E., Chowdhury, R. (under review). Community-Led Systems Dynamics Modeling to Understand Sea Level Rise-Related Health Impacts. *International System Dynamics Conference*. Boston, MA, USA. August 3-7, 2025.
5. "Geospatial Data Cards for Transparent and Responsible Documentation of Geospatial Datasets" - with Mooney (Maynooth University). Target: *ACM Transactions on Spatial Algorithms and Systems*

## **RESEARCH GRANTS AND OTHER PROJECTS**

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#### **Externally funded projects**

2025 - 2028	<b>Environmental Protection Agency.</b> Upgrades and geographic expansion of the geospatial decision support tool Future Shorelines to enhance climate resiliency of South Florida nature-based solutions. \$725,175. (Co-PI)
2025 - 2026	<b>Florida Department of Environmental Protection / NOAA.</b> Rookery Bay National Estuarine Research Reserve Sea Level Rise Vulnerability Assessment. \$159,000. (Co-PI)
2025	<b>National Park Service.</b> <i>Phase II: Detection of bird nests using deep learning to support annual colonial bird monitoring efforts within Biscayne National Park.</i> \$9,000. (PI)
2024 - 2026	<b>Miami-Dade Transportation Planning Organization.</b> <i>Equitable Transportation Assessment Planner (ETAP).</i> \$120,000. (Co-PI)
2023 - 2024	<b>National Park Service.</b> <i>Detection of bird nests using deep learning to support annual colonial bird monitoring efforts within Biscayne National Park.</i> \$40,000. (PI)
2022 - 2024	<b>Miami-Dade Transportation Planning Organization.</b> <i>Transportation Outreach Planner (TOP) Phase IV.</i> \$120,000. (Co-PI)
2022 - 2023	<b>Environmental Protection Agency.</b> <i>Enhancing Living Shoreline Suitability Analysis to Optimize Resilience to Future Sea-Level Rise.</i> \$325,000. (Co-PI)
2020 - 2022	<b>Miami-Dade County Metropolitan Planning Organization.</b> <i>Transportation Outreach Planner (TOP) Phase III.</i> \$110,000. (Co-PI)
2020 - 2021	<b>Miami-Dade County, American Forests</b> , sub-award from <i>University of Florida</i> .

2018                    *Miami-Dade Urban Tree Canopy Detection and Change Analysis. \$22,000. (FIU PI)*  
**University of Florida.** *Distance Education Minigrant for Geomatics Reusable Learning Object Development. \$2,400. (Co-PI)*

#### Other funding received (internally funded projects, scholarships, etc.)

2024 - 2025	<b>FIU Population Health Initiative.</b> <i>Creating A Synthetic Data Ecosystem For AI-Enabled Simulation Modeling To Develop Evidence, Actionable Toolkits, and Strategic Frameworks For Reducing Population Health Consequences of Sea Level Rising in Miami. \$45,000 (Co-PI)</i>
2024	<b>FIU Herbert Wertheim College of Medicine (HWCOM).</b> <i>Geospatial analysis, mapping, and design for the FIU THRIVE mobile app. \$10,000</i>
2022 - 2023	<b>FIU HWCOM.</b> <i>Characterizing the impact of NeighborhoodHELP on COVID-19 related outcomes - Geospatial analysis and spatial statistics. \$7,000</i>
2022	<b>FIU HWCOM.</b> <i>Analyzing access to hospitals and healthcare in Miami-Dade County (geospatial analysis) \$20,000</i>
2019 - 2021	<b>FIU School of Architecture.</b> <i>Geospatial lead for "Climate Resilient Urban Nexus Choices (CRUNCH)". \$25,000</i>
2018	<b>Austrian Marshall Plan Scholarship.</b> <i>Transatlantic Research support to visit Carinthia University of Applied Sciences. \$8,000</i>
2016	<b>University of Florida.</b> <i>IFAS Travel Grant. \$200</i>
2015	<b>ESRI.</b> <i>Travel Grant. \$450</i>
2014	<b>CAMPUS Hungary.</b> <i>Mobility Scholarship to conduct research at JRC Ispra, Italy. \$3,500</i>

#### Proposals under review

2026 - 2027	<b>Community Foundation of Broward.</b> <i>Broward Water Watch: Connecting People, Science, and Clean Water. \$150,000 (FIU PI) (sub-award from Miami Waterkeeper, \$45,000)</i>
2026 - 2027	<b>Amazon Research Awards.</b> <i>Trustworthy Agentic AI for Geospatial Data Integrity: AI-Powered Detection and Response to Map Vandalism. \$80,000 (PI) (sponsor confirmed grant transferability to UF, if awarded)</i>
2026 - 2029	<b>NOAA.</b> <i>Future Shorelines v2.0: expanding and enhancing the on-line geospatial decision support tool Future Shorelines to inform habitat restoration efforts designed to support and sustain valuable estuarine fisheries. \$1,384,605 (Co-PI)</i>
2025 - 2027	<b>National Science Foundation HEGS.</b> <i>Complex Adaptive Geography Modelling of the Health Impacts of Sea Level Rise in South Florida for Advancing Place-Based Health Resiliency. \$500,000 (Co-PI)</i>
2025 - 2027	<b>National Science Foundation R2I2.</b> <i>Coastal Health Resilience Innovation Incubator for South Florida (CHRIS): Building a Synthetic Data Ecosystem for Health Systems Resilience to Sea Level Rise Challenges in South Florida. \$500,000 (Co-PI)</i>

## HONORS & AWARDS

2024	Faculty Award for Notable Achievement. Florida International University Libraries
2020	Best paper of 2020 ("Cartographic Vandalism in the Era of Location-Based Games") Nominated for Jack Dangermond Award by <i>ISPRS Int. J. of Geo-Inf. and ESRI</i>
2019 - 2020	Best Cover Story Award (2019 – 2020) for the story "Cartographic Vandalism in the Era of Location-Based Games" by <i>ISPRS Int. J. of Geo-Inf.</i>

2019	Outstanding Reviewer Award (1 <sup>st</sup> place) by <i>ISPRS Int. J. of Geo-Inf.</i>
2018	Best Analytical Poster Award. South Florida GIS Expo, West Palm Beach, FL
2017	Outstanding Achievement Award. University of Florida CALS. Gainesville, FL
2016	3rd place - Best Full Paper Award, AGILE 2016. Helsinki, Finland

## **TEACHING**

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2024 - present	CAP 5768 <b>Introduction to Data Science</b> , graduate, FIU, Knight Foundation School of Computing and Information Sciences (MS in Data Science & AI program, yearly, Fall)
2020 - present	GIS 5050 <b>Environmental GIS</b> , graduate, FIU, Earth & Environment (yearly, Spring or Summer)
Spring 2023	GIS 5620 <b>GIS in Surveillance, Intelligence, and International Relations (GEOINT)</b> , graduate, FIU School of International & Public Affairs (MA in Global Affairs)
F2016, F2018	GIS 6103 <b>GIS Programming &amp; Customization</b> , graduate, University of Florida. TA
2013, 2014	<b>Spatial Data Acquisition and Surveying</b> , undergraduate, University of Szeged. TA
2013	<b>Introduction to Geographic Information Systems (lab)</b> , undergraduate, University of Szeged. TA

### **Short courses and workshops developed**

2025	<b>Geographic Information Systems (GIS) and Spatial Analysis for Public Health: Spatial Statistics and Intermediate Concepts.</b> Full-day workshop. FIU RCMI.
2024	<b>Geographic Information Systems (GIS) and Spatial Analysis for Public Health: An Introduction.</b> Full-day workshop. FIU RCMI.
2022	<b>Next Generation Geospatial Data Management with PostgreSQL/PostGIS</b> 2-day intensive workshop. FIU.
2021, 2022	<b>Working with Volunteered and Crowdsourced Geographic Information (V&amp;CGI).</b> 2-week e-learning course. European Spatial Data Research (EuroSDR) EduServ initiative. Co-instructor: P. Mooney (Maynooth University)

### **Guest lectures relevant to the position**

1. **Current Trends in Spatial Data Science.** Course: *GIS Analysis. University of Szeged, Hungary, Department of Atmospheric and Geospatial Data Sciences. Szeged, Hungary. Instructors: Szatmari, Mucsi & Tobak.* (11/11/2025)
2. **Fundamentals of Spatial Data Science.** Course: *GIS Analysis. University of Szeged, Hungary, Department of Atmospheric and Geospatial Data Sciences. Szeged, Hungary. Instructors: Szatmari, Mucsi & Tobak* (11/12/2024)
3. **PostGIS for storing, processing and analyzing social media data and Volunteered Geographic Information.** Course: *Data Management in Movement Ecology. University of Florida, Dept. of Wildlife Ecology and Conservation. Instructor: Basille. Davie, FL* [[link](#)] (6/6/2016)

### **Invited talks relevant to the position**

1. **Cloud-Native is the new geospatial revolution: GeoParquet, DuckDB and Cloud-Optimized GeoTIFF as game changers** (A felhőnatív térinformatika az új téradat-forradalom: GeoParquet, DuckDB és felhőre optimalizált GeoTIFF mint a változás motorjai). FOSS4G Hungary Annual Meeting. Budapest University of Technology, Budapest, Hungary (In Hungarian). (5/30/2025)

2. **Open Data and Free & Open-Source Geospatial Software in the United States.** FOSS4G Hungary Annual Meeting. Budapest University of Technology, Hungary (in Hungarian). (5/31/2024) [[link](#)]
3. **Understanding Visitation Patterns to POIs During a Natural Disaster.** Placekey Community Seminar Series. Placekey Community Research Seminars. Online [[link](#)] (5/18/2021)
4. **#FloodTrackerMIA - A Data-Driven Approach to Increase Resilience to Coastal Flooding in the Greater Miami Area.** Knowledge Graphs in Action: DBpedia, Linked Geodata and Geo-information Integration. Online conference [[link](#)] (10/6/2020)
5. **How do we use different (geo-)social media services?** GIScience Lecture Series. Carinthia University of Applied Sciences. Villach, Austria [[link](#)] (6/5/2018)
6. **Analyzing individual user activities in multiple geo-social media and mapping platforms.** VGI and Social Media for the Urban Context Mini-Conference. University of Salzburg, Austria (5/4/2018)

## STUDENT ADVISING AND MENTORING

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### Graduate student advising

- Emilie Christiansen (2025 - present). PhD in Criminology. Committee member.  
**Topic:** The Role of Topography in Crime: Evidence from North American Cities
- Jorge Corcino (2025 - present). MS in Data Science & AI. Capstone Project Faculty Mentor  
**Topic:** Developing data science methods to understand electricity use patterns in the British Virgin Islands
- Pedro Medina (2024 - 2025). MS in Data Science & AI. Capstone Project Faculty Mentor  
**Topic:** Spatio-temporal crime prediction using machine learning
- Luis Garcia Falcon (2024 - ongoing). PhD in Geography. Committee member.  
**Topic:** Participatory and crowdsourced GIS to document indigenous resistance in Ecuador
- Victoria Ortiz (2024 - 2025). MS in Geosciences. Committee member.  
**Topic:** Spatio-temporal analysis of association between air pollution and environmental factors
- Tendai Gwanzura (2022 - ongoing). PhD in Epidemiology. Committee member.  
**Topic:** Spatial epidemiology, socio-economic determinants of dual HIV and COVID-19 clusters

### Student intern project supervision

- Patrick Davenport, Fall 2025 - present (BS in Information Technology)
- Vedant Sharan, Fall 2024 - Spring 2025 (High School senior)
- Don Daxton, Fall 2023 - Spring 2025 (BS Environmental Engineering)
- Leila Campalone, Fall 2023 - Summer 2024 (BS Crime Science)
- Flora Beleznay, Spring 2023 - Summer 2023 (BS Environmental Science)
- Mei Hamaguchi, Fall 2022 - Summer 2023 (BS Environmental Science)
- Krystle Barnes, Fall 2022 (BS Environmental Science)
- Jesse Velazquez, Fall 2022 (BS Biology)
- Tatiana Summerall, Spring 2022 – Fall 2022 (BS Computer Science)
- Emily Herrera, Summer 2021 (PSM Environmental Policy & Management)
- Mariangelica Banasco, Summer 2020 (PSM Environmental Policy & Management)
- Samantha Morejon, Summer 2020 (PSM Environmental Policy & Management)
- Adeola Kolapo-Oluwo, Summer 2020 (PSM Environmental Policy & Management)

## SERVICE

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### **Elected positions in professional organizations**

- Vice President, Board of Directors, OpenStreetMap US (2024 - present)
- Charter Member, OsGeo (Open Source Geospatial Foundation, 2023 - present)

### **Academic service**

- Special Issue lead guest editor: [Advances in AI-Driven Geospatial Analysis and Data Generation \(2nd Edition\) \(ISPRS International Journal of Geo-Information\)](#)
- Program Committee Member, 9th International Conference on Computer-Human Interaction Research and Applications - CHIRA 2025, Marabella, Spain
- Program Committee member, 8th International Conference on Computer-Human Interaction Research and Applications - CHIRA 2024, Porto, Lisbon
- Special Issue guest editor: [Advances in AI-Driven Geospatial Analysis and Data Generation \(ISPRS International Journal of Geo-Information\)](#)
- Member, Scientific Committee, OSMScience 2023 Conference (@ SotM EU). Antwerp, Belgium
- Member, Scientific Committee, State of the Map 2022. Florence, Italy. 2022 August 19 - 21
- Special Issue guest editor: [Advances in Social Network Analysis – Spatio-Temporal and Semantic Methods \(ISPRS Int'l Journal of Geo-Information\)](#)
- Special Issue guest editor: [OpenStreetMap as a multi-disciplinary nexus: Perspectives, Practices, and Procedures \(ISPRS Int'l Journal of Geo-Information\)](#)
- Co-Chair, Academic Track at State of the Map 2020. Cape Town, South Africa (Online). 2020 July 3-5
- Co-chair, Academic Track at the State of the Map 2019. Heidelberg, Germany. 2019 September 14-16
- Co-chair: VGI HATCh: Using Volunteered Geographic Information for Help and Assistance in Transport and Humanitarian operations. 22nd AGILE Conference on Geo-information Science. Cyprus University of Technology, Limassol, Cyprus (Cancelled) (2019)
- Local organizing team member: LINK-VGI: LINKing and analyzing Volunteered Geographic Information (VGI) across different platforms. 19th AGILE Conference on Geographic Information Science. University of Helsinki, Helsinki, Finland (2016)
- Manuscript reviewer for: International Journal of Data Science and Analytics, *International Journal of Human-Computer Interaction*, *Transactions in GIS*, *The Professional Geographer*, *Open Geospatial Data, Software and Standards*, *Remote Sensing*, *ISPRS International Journal of Geo-Information*, *Urban Science*, *PLOS ONE*, *International Journal of Spatial Data Infrastructures Research*, *GEOProcessing 2019 Conference*, *ISPRS Congress 2020, 2021*, *Geo-spatial Information Science*, *International Journal of Applied Earth Observation and Geoinformation*, *International Health*, *Journal of Spatial Information Science*, *European Journal of Geography*, *International Journal of Geographical Information Science*, *International Journal of Digital Earth*, *Annals of the American Association of Geographers*, *GIScience & Remote Sensing*, *Environment and Planning B: Urban Analytics and City Science*, *Estuaries and Coasts*, *Journal of Map and Geography Libraries*

### **Service to profession**

- Subject Matter Expert (SME), U.S. Department of Homeland Security (DHS), Science, Advice, and Guidance for Emergencies (SAGE) Program (2025 - 2030)

- Expert Reviewer, United Nations Global Environment Outlook Report 7 (UN GEO-7), 2024 - 2025

### **Institutional service**

- UFF-FIU Senator, United Faculty of Florida - FIU chapter (2025 - present)
- FIU Faculty Senate - Alternate Senator (2025 - present)
- Undergraduate Research at FIU (URFIU) Conference, Faculty Reviewer, FIU (2025)
- Earth & Environment Graduate Research Symposium, Faculty Judge, FIU (2025)
- Faculty Search & Screen Committee, GIS Research Faculty (cluster hire), FIU Libraries, Chair (2025)
- Search & Screen Committee, Open Educational Resources Librarian, FIU, Member (2024)
- Ad-Hoc Committee to Revise Faculty Evaluation Methods, FIU Libraries, Member (2023 - 2025)
- Dean's Technology Development Task Force, FIU Libraries, Member (2022 - 2023)
- Search Committee "Application Developer II", FIU Libraries, Member (2022)
- Peer-Review & Research Committee, FIU Libraries, Member (2021 – 2022)
- Search Committee "Geospatial Web Developer II", FIU Libraries, Member (2021)
- Search Committee "Cloud Engineer", FIU Libraries, Member (2021)
- GIS Faculty Advisory Committee, Member (2020 – present)
- Merit Committee, FIU Libraries, Member (2020-2021, 2023-2024)
- CALS Graduate Teaching & Advising Award. Committee Member. University of Florida (2018)

### **Community involvement**

- Co-organizer, Maptme Miami (2017 - 2020, 2024 - present)
- Volunteer Mentor, CoderDojo Plantation (2016 - 2018)

## **PROFESSIONAL MEMBERSHIPS**

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- Public Body of the Hungarian Academy of Sciences (MTA), External Member (2025 - present )
- ACM SIGSPATIAL - Special Interest Group on Spatial Information
- IEEE - Member of: Computer Society; Systems, Man, and Cybernetics Society
- International Society for Photogrammetry and Remote Sensing (ISPRS)
- American Association of Geographers (AAG)
- Florida Society of Geographers (FSG)
- Hungarian Geographical Society (MFT)

## **IN THE NEWS**

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- April 2024: EXPOSED: Miami-Dade County's urban tree project unable to shade residents from record heat. *Miami Herald*.  
<https://www.miamiherald.com/news/local/environment/climate-change/article276415291.html>
- June 2022: L'isola che (non) c'è [in Italian]. Interview and story by *Zeta Luiss*.  
<https://zetaluiss.it/2022/06/05/null-island-equatore/>
- May 2022: MapLab: Inside Null Island, 'the Most Real of Fictional Places'. Interview and story by *Bloomberg CityLab*.  
<https://www.bloomberg.com/news/newsletters/2022-05-04/maplab-inside-null-island-the-most-real-of-fictional-places>
- September 2020: Online COVID-19 Maps and the 'Infodemic'. *GIS Lounge*.  
<https://www.gislounge.com/online-covid-19-maps-and-the-infodemic/>

- August 2020: GIS researcher Levente Juhasz examines online maps and their inaccuracies during COVID-19 pandemic. *FIU News*.  
<https://news.fiu.edu/2020/mapping-covid-19-an-interview-with-gis-researcher-levente-juhasz>
- April 2020: Article titled “Cartographic Vandalism in the Era of Location-Based Games” was promoted as the cover story of *ISPRS International Journal of Geo-Information* Vol.9 Iss. 4.  
<https://www.mdpi.com/2220-9964/9/4>
- December 2019: How Artists and Scientists Are Tackling Miami’s Rising Sea Levels. *Tech Insider*.  
<https://news.fiu.edu/2020/fiu-libraries-gis-experts-featured-in-new-tech-insider-piece-highlighting-the-joint-effort-between-artists-and-scientist-in-bringing-awareness-to-rising-sea-levels-in-miami.>  
(50k views as of January 2023)