# Levente Juhász, PhD

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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 | **Ph.D. Geomatics** | University of Florida | Gainesville, FL |
| 2013 | **MSc Geography - Geoinformatics** | University of Szeged | Szeged, Hungary |
| 2011 | **BSc Geography - Geoinformatics** | University of Szeged | Szeged, Hungary |

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

**University of Florida**, Ft. Lauderdale, FL, USA

2026 - present **Assistant Professor of Geospatial Analytics**
2026 - present **Director,** Geospatial Analytics, Technology & Open Research (GATOR) Laboratory

**Florida International University**, Miami, FL, USA

2025 **Research Associate Professor**
2019 - 2025 **Research Assistant Professor**
2023 - 2025 **Assistant Director of GIScience**, GIS Center
2022 - 2023 **Director** (Interim)**,** GIS Center
2019 - 2025 **Research Assistant Professor**

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

2018 **Visiting Scientist**, Geoinformation Technology Department

**Mapillary** (now part of Meta Platforms, Inc.), Remote

2015 - 2017 **Geospatial Data Scientist***

**University of Florida**, Fort Lauderdale, FL, USA

2014 - 2018 **Graduate Research Assistant,** Geomatics Sciences, UF/IFAS FLREC

**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
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
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
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
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
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
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
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
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
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
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
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
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

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
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
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
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
18. **Juhász, L.**, Hochmair, H.H. (2018). OSM Data Import as an Outreach Tool to Trigger Community Growth? A Case Study in Miami. I*SPRS International Journal of Geo-Information*. 7 (3): 113. doi: 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
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
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
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
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
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

**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
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
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

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
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
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
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 38th 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
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
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
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

**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
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.purdue.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 202*2, Florence, Italy, 19-21 August 2022. doi: 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
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
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
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., Coetzee, 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. **Juhász, L.**, Garba, N.A., Moise, I.K., Bhoide, P.B., Clark, C., Clarke, R.D., Kikuchi, N., Brown, D.R. (under review). The Detection Paradox: How COVID-19 Surveillance Patterns Shifted from Distressed to Affluent Neighborhoods in Miami-Dade County. *SSM - Population Health.*
2. 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*
3. "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

**Externally funded projects**

2025 - 2028 **Environmental Protection Agency.** 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 **Florida Department of Environmental Protection / NOAA.** Rookery Bay National Estuarine Research Reserve Sea Level Rise Vulnerability Assessment. $159,000. (Co-PI)

2025 **National Park Service.** *Phase II: Detection of bird nests using deep learning to support annual colonial bird monitoring efforts within Biscayne National Par*k. $9,000. (PI)

2024 - 2026 **Miami-Dade Transportation Planning Organization.** *Equitable Transportation Assessment Planner (ETAP)*. $120,000. (Co-PI)

2023 - 2024 **National Park Service.** *Detection of bird nests using deep learning to support annual colonial bird monitoring efforts within Biscayne National Park.* $40,000. (PI)

2022 - 2024 **Miami-Dade Transportation Planning Organization.** *Transportation Outreach Planner (TOP) Phase IV.* $120,000. (Co-PI)

2022 - 2023 **Environmental Protection Agency.** *Enhancing Living Shoreline Suitability Analysis to Optimize Resilience to Future Sea-Level Rise.* $325,000. (Co-PI)

2020 - 2022 **Miami-Dade County Metropolitan Planning Organization**. *Transportation Outreach Planner (TOP) Phase III.* $110,000. (Co-PI)

2020 - 2021 **Miami-Dade County, American Forests**, sub-award from *University of Florida*. *Miami-Dade Urban Tree Canopy Detection and Change Analysis.* $22,000. (FIU PI)

2018 **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 **FIU Population Health Initiative.** *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)

2024 **FIU Herbert Wertheim College of Medicine (HWCOM).** *Geospatial analysis, mapping, and design for the FIU THRIVE mobile app*. $10,000

2022 - 2023 **FIU HWCOM.** *Characterizing the impact of NeighborhoodHELP on COVID-19 related outcomes - Geospatial analysis and spatial statistics*. $7,000

2022 **FIU HWCOM.** Analyzing access to hospitals and healthcare in Miami-Dade County (geospatial analysis) $20,000

2019 - 2021 **FIU School of Architecture.** *Geospatial lead for "Climate Resilient Urban Nexus CHoices (CRUNCH)".* $25,000

2018 **Austrian Marshall Plan Scholarship.** *Transatlantic Research support to visit Carinthia University of Applied Sciences.* $8,000

2016 **University of Florida.** *IFAS Travel Grant***.** $200

2015 **ESRI.** Travel Grant. $450

2014 **CAMPUS Hungary.** *Mobility Scholarship to conduct research at JRC Ispra, Italy.* $3,500

**Proposals under review**

2026 - 2027 **Community Foundation of Broward.** *Broward Water Watch: Connecting People, Science, and Clean Water.* $150,000 (FIU PI) (sub-award from Miami Waterkeeper, $45,000)

2026 - 2027 **Amazon Research Awards.** *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)

2026 - 2029 **NOAA.** 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)

2025 - 2027 **National Science Foundation HEGS**. *Complex Adaptive Geography Modelling of the Health Impacts of Sea Level Rise in South Florida for Advancing Placed-Based Health Resiliency*. $500,000 (Co-PI)

2025 - 2027 **National Science Foundation R2I2.** *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)

## 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 *ISPRS Int. J. of Geo-Inf. and ESRI*

2019 - 2020 Best Cover Story Award (2019 – 2020) for the story "Cartographic Vandalism in the Era of Location-Based Games" by *ISPRS Int. J. of Geo-Inf.*

2019 Outstanding Reviewer Award (1st place) by *ISPRS Int. J. of Geo-Inf.*

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

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

**Short courses and workshops developed**

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|---|---|
| 2025 | **Geographic Information Systems (GIS) and Spatial Analysis for Public Health: Spatial Statistics and Intermediate Concepts.** Full-day workshop. FIU RCMI. |
| 2024 | **Geographic Information Systems (GIS) and Spatial Analysis for Public Health: An Introduction.** Full-day workshop. FIU RCMI. |
| 2022 | **Next Generation Geospatial Data Management with PostgreSQL/PostGIS** 2-day intensive workshop. FIU. |
| 2021, 2022 | **Working with Volunteered and Crowdsourced Geographic Information (V&CGI).** 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

**Graduate student advising**

**Univesity of Florida**

TBD

**Florida International University**

- 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
- 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 (BS in Information Technology)
- Vedant Sharan, Fall 2024 - Spring 2025 (High School senior)
- Don Daxton, Fall 2023 - Spring 2025 (BS Environmental Engineering)
- Leila Camplone, 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

**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 (Canceled) (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, Maptime Miami (2017 - 2020, 2024 - present)
- Volunteer Mentor, CoderDojo Plantation (2016 - 2018)

## PROFESSIONAL MEMBERSHIPS

- 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

- 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)