

jiayan Zhao

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Chair of Cognitive Science
Department of Humanities, Social
and Political Sciences
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EDUCATION

- 2016–2020/12 **Ph.D.** in Geography (GIScience), The Pennsylvania State University, USA
Advisor: Alexander Klippel
Committee members: Roger Downs, Shyam Sundar, and Ping Li
- 2014–2016 **M.A.** in Geography (GIScience), University at Albany, State University of New York, USA
Advisor: Rui Li
- 2010–2014 **Bachelor of Engineering** in Geological Engineering, Central South University, China
Advisor: Qianhong Wu

PROFESSIONAL EXPERIENCE

- 2022/3–present **Postdoctoral Researcher** in the Chair of Cognitive Science, ETH Zurich (supervisor: Christoph Hölscher)
- 2022/3–present **Academic Director & Interim Treasurer**, the Cartography Specialty Group, American Association of Geographers (AAG)
- 2021/8–2022/2 **Postdoctoral Research Associate** in the Emerging Analytics Center, University of Arkansas at Little Rock (supervisor: Jan Springer)
- 2021/3–2021/7 **Postdoctoral Scholar** in the Center for Immersive Experiences, Penn State (supervisor: Alexander Klippel)
- Spring 2020 **Teaching Assistant**, Geography 107: Immersive Technologies, Penn State
- Summer 2019 **Instructor**, Geography 160: Mapping our Changing World, Penn State
- 2018–2020 **Student Director**, the Environmental Perception and Behavioral Geography (EPBG) Specialty Group, AAG
- 2016–2020 **Research Assistant** for Dr. Alexander Klippel, Penn State
- Digital Innovation through Immersive Technologies: Establishing New Paradigms for Environmental Decision Support (Penn State’s seed grants)
 - Immersive Virtual Reality (iVR): The Printing Press of the 21st Century and How Learning About Place and Space Will Never be the Same (COIL Research Initiation Grants).
 - Collaborative Research: Improving Wayfinding and Navigation in Immersive Virtual Environments (NSF - CHS: Small).
- Summer 2016 **Staff Assistant** for Dr. Rui Li as an Android developer, University at Albany, SUNY
- Visualizing Distant Information on Mobile Phone Platforms

PUBLICATIONS

Journal Articles

1. Bursztyn, N., Sajjadi, P., Riegel, H., Huang, J., Wallgrün, J. O., **Zhao, J.**, Masters, B., & Klippel, A. (2022). Virtual strike and dip – advancing inclusive and accessible field geology. *Geoscience Communication*, 5(1), 29–53. <https://doi.org/10.5194/gc-5-29-2022>
2. **Zhao, J.**, Wallgrün, J. O., Sajjadi, P., LaFemina, P., Lim, K. Y. T., Springer, J. P., & Klippel, A. (2021). Longitudinal Effects in the Effectiveness of Educational Virtual Field Trips. *Journal of Educational Computing Research*, 1-27. <https://doi.org/10.1177/07356331211062925>
3. **Zhao, J.**, Ma, X., Simpson, M., Sajjadi, P., Wallgrün, J. O., & Klippel, A. (2021). Reference frames and geographic scale: Understanding their relationship in environmental learning. *Cartography and Geographic Information Science*, 3(4), 1–15. <https://doi.org/10.1080/15230406.2021.1942219>
4. Klippel, A., Sajjadi, P., **Zhao, J.**, Wallgrün, J. O., Huang, J., & Bagher, M. M. (2021). Embodied Digital Twins for Environmental Applications. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, V-4-2021, 193–200. <https://doi.org/10.5194/isprs-annals-V-4-2021-193-2021>
5. Oprean, D., Verniz, D., **Zhao, J.**, Wallgrün, J. O., Baird, T., Duarte, J. P., & Klippel, A. (2021). Conceptualizing the Remote Site Experience through Immersive Technology: Unraveling the Santa Marta Favela from Students' Perspectives. *Landscape Journal*, 39(2), 31–49. <https://doi.org/10.3368/wplj.39.2.31>
6. **Zhao, J.**, Sensibaugh, T., Bodenheimer, B., McNamara, T. P., Nazareth, A., Newcombe, N., Minear, M., and Klippel, A. (2020). Desktop versus immersive virtual environments: Effects on spatial learning. *Spatial Cognition & Computation*, 3(3), 1–36. <https://doi.org/10.1080/13875868.2020.1817925>
7. **Zhao, J.**, Simpson, M., Wallgrün, J. O., Sajjadi, P., & Klippel, A. (2020). Exploring the Effects of Geographic Scale on Spatial Learning. In *Cognitive Research: Principles and Implications*, 5(14), 1–18. <https://doi.org/10.1186/s41235-020-00214-9>
8. Li, P., Legault, J., Klippel, A., & **Zhao, J.** (2020). Virtual reality for student learning: Understanding individual differences. *Human Behaviour and Brain*, 28–36. <https://doi.org/10.37716/HBAB.2020010105>
9. **Zhao, J.**, Wallgrün, J. O., LaFemina, P. C., Normandeau, J., & Klippel, A. (2019). Harnessing the power of immersive virtual reality - visualization and analysis of 3D earth science data sets. In *Geo-spatial Information Science*, 22(4), 237–250. <https://doi.org/10.1080/10095020.2019.1621544>
10. Klippel, A., **Zhao, J.**, Oprean, D., Wallgrün, J. O., Stubbs, C., La Femina, P., & Jackson, K. L. (2019). The value of being there: Toward a science of immersive virtual field trips. *Virtual Reality*, 1(4), 24. <https://doi.org/10.1007/s10055-019-00418-5>
11. Klippel, A., **Zhao, J.**, Jackson, K. L., LaFemina, P., Stubbs, C., Oprean, D., Wetzel, R., Wallgrün, J. O., & Blair, J. (2019). Transforming Earth Science Education Through Immersive Experiences. Delivering on a Long Held Promise. In *Journal of Educational Computing Research* 10 (2). <https://doi.org/10.1177/0735633119854025>
12. Legault, J., **Zhao, J.**, Chi, Y.-A., Chen, W., Klippel, A., & Li, P. (2019). Immersive Virtual Reality as an Effective Tool for Second Language Vocabulary Learning. *Languages*, 4(1), 13. <https://doi.org/10.3390/languages4010013>
13. Huang, J., Bagher, M. M., Dohn Ross, H., Piekielek, N., Wallgrün, J. O., **Zhao, J.**, & Klippel, A. (2018). From Archive, to Access, to Experience—Historical Documents as a Basis for Immersive Experiences. *Journal of Map & Geography Libraries*, 14(1), 40–63. <https://doi.org/10.1080/15420353.2018.1498427>
14. Li, R., & **Zhao, J.** (2017). Off-Screen Landmarks on Mobile Devices: Levels of Measurement and the Perception of Distance on Resized Icons. *KI - Künstliche Intelligenz*, 7(27), 1–9. <https://doi.org/10.1007/s13218-016-0471-7>

Peer-Reviewed Conference Publications

1. **Zhao, J.**, Simpson, M., Sajjadi, P., Wallgrün, J. O., Li, P., Bagher, M. M., Oprean, D., Padilla, L., & Klippel, A. (2021). CrowdXR - Pitfalls and Potentials of Experiments with Remote Participants. *2021 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)* (pp. 450-459). <https://doi.org/10.1109/ISMAR52148.2021.00062>.
2. Wallgrün, J. O., Huang, J., **Zhao, J.**, Brede, B., Lau, A., & Klippel, A. (2021). Embodied digital twins of forest environments. In *GIScience 2021 Short Paper Proceedings. 11th International Conference on Geographic Information Science*. September 27-30: Vol. 2021. Poznań (p. Poland (Online)). eScholarship, University of California. <https://doi.org/10.25436/E2059Z>
3. Sajjadi, P., **Zhao, J.**, Wallgrün, J. O., La Femina, P., & Klippel, A. (2021). Influence of HMD Type and Spatial Ability on Experiences and Learning in Place-based Education. In D. Economou, A. Peña-Rios, A. Dengel, H. Doods, M. Mentzelopoulos, A. Klippel, K. Erenli, M. J. W. Lee, & J. Richter (Eds.), *Conference Proceedings of the 2021 7th International Conference of the Immersive Learning Research Network (iLRN)* (pp. 289–296). <https://doi.org/10.23919/iLRN52045.2021.9459405>
4. Wallgrün, J. O., Knapp, E., Taylor, A., Klippel, A., **Zhao, J.**, & Sajjadi, P. (2021). Place-Based Learning Through a Proxy - Variations in the Perceived Benefits of a Virtual Tour. In D. Economou, A. Peña-Rios, A. Dengel, H. Doods, M. Mentzelopoulos, A. Klippel, K. Erenli, M. J. W. Lee, & J. Richter (Eds.), *Conference Proceedings of the 2021 7th International Conference of the Immersive Learning Research Network (iLRN)* (pp. 198–205). <https://doi.org/10.23919/iLRN52045.2021.9459380>
5. Bursztyn, N., Riegel, H., Sajjadi, P., Masters, B., **Zhao, J.**, Huang, J., Bagher, M. M., Wallgrün, J. O., & Klippel, A. (2021). Fostering Geological Thinking Through Virtual Strike and Dip Measurements. In *2021 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*. <https://doi.org/10.1109/VRW52623.2021.00061>
6. **Zhao, J.**, LaFemina, P., Carr, J., Sajjadi, P., Wallgrün, J. O., & Klippel, A. (2020). Learning in the Field: Comparison of Desktop, Immersive Virtual Reality, and Actual Field Trips for Place-Based STEM Education. *2020 IEEE Virtual Reality Conference* (pp. 893–902). <https://doi.org/10.1109/VR46266.2020.1581091793502>
7. Sajjadi, P., **Zhao, J.**, Wallgrün, J. O., Furman, T., LaFemina, P., Fatemi, A., Zidik, Z. E., & Klippel, A. (2020). The Effect of Virtual Agent Gender and Embodiment on the Experiences and Performance of Students in Virtual Field Trips. *2020 IEEE International Conference on Teaching Assessment, and Learning for Engineering (TALE)* (pp. 221-228). <https://doi.org/10.1109/TALE48869.2020.9368457>
8. Klippel, A., **Zhao, J.**, Sajjadi, P., Wallgrün, J. O., Bagher, M. M., & Oprean, D. (2020). Immersive Place-based Learning – An Extended Research Framework. In *2020 IEEE Virtual Reality Workshop on K-12 Embodied Learning Through Virtual and Augmented Reality (KELVAR)* (pp. 449–454). <https://doi.org/10.1109/VRW50115.2020.00095>
9. **Zhao, J.** & Klippel, A. (2019). Scale - Unexplored Opportunities for Immersive Technologies in Place-based Learning. *2019 IEEE Virtual Reality Conference* (pp. 155–162). <https://doi.org/10.1109/VR.2019.8797867>
10. Wallgrün, J. O., Masrur, A., **Zhao, J.**, Taylor, A., Knapp, E., Chang, J. S. K. & Klippel, A. (2019). Low-Cost VR Applications to Experience Real World Places Anytime, Anywhere, and with Anyone. In *WEVR: The Fifth IEEE VR Workshop on Everyday Virtual Reality*. <https://doi.org/10.1109/WEVR.2019.8809593>
11. Klippel, A., **Zhao, J.**, Oprean, D., Wallgrün, J. O., & Chang, J. S.-K. (2019). Research Framework for Immersive Virtual Field Trips. In *2019 IEEE Virtual Reality Workshop on K-12 Embodied Learning Through Virtual and Augmented Reality (KELVAR)* (pp. 1612–1617). <https://doi.org/10.1109/VR.2019.8798153>
12. Wallgrün, J. O., Chang, J. S. K., **Zhao, J.**, Sajjadi, P., Oprean, D., Murphy, T., Baka, J., & Klippel, A. (2019). For the Many, Not the One: Designing Low-Cost Joint VR Experiences for Place-Based Learning. *EuroVR 2019 Conference*. https://doi.org/10.1007/978-3-030-31908-3_9
13. Klippel, A., Oprean, D., **Zhao, J.**, Wallgrün, J. O., LaFemina, P., Jackson, K., Gowen, E. (2019) Immersive Learning in the Wild: A Progress Report. In: Beck D. et al. (eds) *Immersive Learning Research Network*.

- iLRN 2019. Communications in Computer and Information Science, vol 1044. Springer, Cham.
https://doi.org/10.1007/978-3-030-23089-0_1
14. Oprean, D., Verniz, D., **Zhao, J.**, Wallgrün, J. O., Duarte, J., & Klippel, A. (2018). Remote studio site experiences: Investigating the potential to develop the immersive site visit. In T. Fukada, W. Huang, P. Janssen, K. Crolla, & S. Alhadidi (Eds.), *Learning, Adapting and Prototyping, Proceedings of the 23rd International Conference of the Association for Computer-Aided Architectural Design Research in Asia (CAADRIA) 2018*. Hong Kong: The Association for Computer-Aided Architectural Design Research in Asia.
 15. **Zhao, J.**, Lafemina, P., Wallgrun, J. O., Oprean, D., & Klippel, A. (2017). iVR for the geosciences. 2017 *IEEE Virtual Reality Workshop on K-12 Embodied Learning through Virtual & Augmented Reality (KELVAR)*. <https://doi.org/10.1109/kelvar.2017.7961557>
 16. Masrur, A., **Zhao, J.**, Wallgrün, J. O., LaFemina, P., & Klippel, A. (2017). Immersive applications for informal and interactive learning for earth sciences. In B. Bach et al. (Eds.), *Workshop on Immersive Analytics. Exploring Future Interaction and Visualization Technologies for Data Analytics*. In conjunction with IEEE VIS, Phoenix, Arizona, USA, October 1st, 2017.
 17. Simpson, M., **Zhao, J.**, & Klippel, A. (2017). Take a walk: Evaluating movement types for data visualization in immersive virtual reality. In B. Bach et al. (Eds.), *Workshop on Immersive Analytics. Exploring Future Interaction and Visualization Technologies for Data Analytics*. In conjunction with IEEE VIS, Phoenix, Arizona, USA, October 1st, 2017.
 18. Wallgrün, J. O., Huang, J., **Zhao, J.**, Ebert, C., Roddy, P., Murtha, T., Awe, J., Klippel, A. (2017). Immersive Technologies and Experiences for Archaeological site exploration and analysis. In P. Fogliaroni, A. Ballatore, & E. Clementini (Eds.), *Proceedings of Workshops and Posters at 13th International Conference on Spatial Information Theory (COSIT 2017)* (pp. 307–314). Berlin: Springer. https://doi.org/10.1007/978-3-319-63946-8_48
 19. Wallgrün, J. O., Huang, J., **Zhao, J.**, Masrur, A., & Klippel, A. (2017). A framework for low-cost multi-platform VR and AR site experiences. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* (pp. 263-270). <https://doi.org/10.5194/isprs-archives-XLII-2-W8-263-2017>
 20. Oprean, D., Wallgrün, J. O., Pinto, D. J. M., Verniz, D., Zhao, J., & Klippel, A. (2018). Developing and Evaluating VR Field Trips. In P. Fogliaroni, A. Ballatore, & E. Clementini (Eds.): *Lecture notes in geoinformation and cartography, Proceedings of workshops and posters at the 13th International Conference on Spatial Information Theory (COSIT 2017)*. Cham: Springer. https://doi.org/10.1007/978-3-319-63946-8_22
 21. **Zhao, J.**, & Li, R. (2016). Visualizing distance objects on mobile phones: Choice of resizable icons. In S. M. Freundschuh (Ed.), *Conference Proceedings, AutoCarto2016. The 21st International Research Symposium on Computer-based Cartography and GIScience*, Albuquerque, New Mexico, USA. September 14-16, 2016. (pp. 239–250). CaGIS.

Other Conference Publications

1. Sajjadi, P., **Zhao, J.**, Wallgrun, J. O., La Femina, P. C., & Klippel, A. (2021). HMD Type and Spatial Ability: Effects on the Experiences and Learning of Students in Immersive Virtual Field Trips. In *2021 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*. <https://doi.org/10.1109/VRW52623.2021.00155>
2. **Zhao, J.**, Simpson, M., Wallgrun, J. O., Sajjadi, P., & Klippel, A. (2020). Extended Realities – How Changing Scale Affects Spatial Learning. In *2020 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)* (pp. 601–602). <https://doi.org/10.1109/VRW50115.2020.00151>
3. Klippel, A., Wallgrün, J. O., **Zhao, J.**, Oprean, D., Chang, S. K., LaFemina, P. C., Pejman, S., Bagher, M.M. (2019). Place-based education - an immersive technologies perspective [abstract]. In: *Fall Meeting of American Geophysical Union (AGU)*; 2019 Dec 9–13; San Francisco, CA. Abstract ED12A-04.

4. LaFemina, P. C., Klippel, A., Carr, J. C., **Zhao, J.**, Wallgrün, J. O., Oprean, D., Chang, S. K., Jackson, K. L. (2019). Bringing the Field to the Classroom: Immersive Virtual Fieldtrips in Undergraduate Geoscience Courses [poster]. In: *Fall Meeting of American Geophysical Union (AGU)*; 2019 Dec 9–13; San Francisco, CA. Abstract nr ED53E-0885.
5. Klippel, A., Wallgrün, J. O., Masrur, A., **Zhao, J.**, & Peter LaFemina (2019). Warping space and time - xR reviving educational tool of the 19th century. In *IEEE VR Poster*. <https://doi.org/10.1109/VR.2019.8797897>
6. Klippel, A., **Zhao, J.**, Wallgrün, J. O., Oprean, D., Stubbs, C., Jackson, K. L., & LaFemina, P. C. (2018). The Value of Being There: Toward a Science of Immersive Virtual Field Trips [abstract]. In: *Fall Meeting of American Geophysical Union (AGU)*; 2018 Dec 10–14; Washington, DC. Abstract nr ED54B-07.
7. **Zhao, J.**, Wallgrün, J. O., LaFemina, P. C., DiBiase, R. A., Carr, J. C. & Klippel, A. (2018). Toward a Universal Workbench for Visualization and Quantitative Exploration of Earth Science Data in Immersive Virtual Reality [abstract]. In: *Fall Meeting of American Geophysical Union (AGU)*; 2018 Dec 10–14; Washington, DC. Abstract nr IN53B-04.
8. **Zhao, J.**, Klippel, A., Minear, M., Newcombe, N., Bodenheimer, B., McNamara, Bodenheimer, B., McNamara, T., Nazareth, A., & Sensibaugh, T. (2018). Walking and learning in a large-scale mediated space: Impacts of viewpoint transition and proprioceptive feedback on spatial learning in virtual reality [abstract]. In *COGNITIVE PROCESSING* (Vol. 19, S55-S55). Retrieved from <https://link.springer.com/content/pdf/10.1007%2Fs10339-018-0884-3.pdf>

Articles in Preparation

1. **Zhao, J.**, Bartholomeus, H., Sarmiento, A. L., Brede, B., Kooistra, L., & Klippel, A. A Universal Workbench for Visualization and Quantitative Analysis of Environmental Science Data Sets in Immersive Virtual Reality.
2. **Zhao, J.** The Effect of Desktop Versus Immersive Virtual Reality on Spatial Learning: A Meta-Analysis
3. **Zhao, J.**, Riecke, B. E., Bretin, A., Aguilar, I., Wiesinger, C. & Clement, D. A. Novel Virtual Reality Demonstrator for Participatory Urban Planning and Decision Making
4. Sajjadi, P., Edwards, C., Fatemi, A., **Zhao, J.**, Krieger, E. N., Klippel, A., & Masterson, T. Immersive Virtual Alimentation and Nutrition (IVAN) Experience: The Role of Interactive Embodiment on Learning in Virtual Reality.
5. Liu, B., & **Zhao, J.** Wayfinding in XR: A Systematic Review.
6. Li, R., & **Zhao, J.** Assessing the Changed Role of Drivers in Self-Driving Vehicles and Effects of Augmented Reality Display on Windshield.

PRESENTATIONS

Invited Talks

1. Designing a Pilot AR/VR Lab for Data Science Education. *Data Science for Arkansas Workshop*. Online event (12/10/2021)
2. Embodied Digital Twins: Advancing Ecological Education Through Body, Mind, and Environment. *Biology Department Seminar, Murray State University, Murray, KY* (09/24/2021)
3. Introduction to Immersive Technologies. *LEAP class, Penn State University, University Park, PA* (7/25/2017).

Conference Presentations

1. Place-Based Learning Through a Proxy – Variations in the Perceived Benefits of a Virtual Tour. *7th International Conference of the Immersive Learning Research Network, iLRN Virtual Campus* (05/22/2021)

2. Learning in the field: Comparison of desktop, immersive virtual reality, and actual field trips for place-based STEM education. *2020 IEEE Virtual Reality Conference*, Atlanta, GA (03/26/2020)
3. Extended Realities – How Changing Scale Affects Spatial Learning. *IEEE VR Poster*, Atlanta, GA (03/23/2020–03/25/2020)
4. Isovist Scale - An Unexplored Opportunity for Spatial Learning in Virtual Environments. *AAG*, Washington, D.C. (04/05/2019)
5. David and Goliath – Visual Accessibility in Spatial Learning. *EMS Graduate Research Showcase and Reception* [poster], University Park, PA (10/23/2019)
6. Toward a Universal Workbench for Visualization and Quantitative Exploration of Earth Science Data in Immersive Virtual Reality. *AGU Fall Meeting*, Washington, D.C. (12/14/2018)
7. Walking and learning in a large-scale mediated space: Impacts of viewpoint transition and proprioceptive feedback on spatial learning in virtual reality. *ICSC*, Rome, Italy (09/11/2018)
8. Walking and learning in a large-scale mediated space: Impacts of viewpoint transition and proprioceptive feedback on spatial learning in virtual reality. *Spatial Cognition 2018 Doctoral Colloquium*, Tübingen, Germany (09/08/2018)
9. Effects of isovist scale on spatial learning. *Virtual environments as geo/spatial labs workshop (Spatial Cognition)*, Tübingen, Germany (09/05/2018)
10. Walking and Learning in a Large-Scale Mediated Space: Impacts of viewpoint transition and body-based cues on spatial learning in virtual reality. *Data Blitz (2nd Interdisciplinary Navigation Symposium)*, Mont-Tremblant, Canada (06/26/2018)
11. Walking and Learning in a Large-Scale Mediated Space: Impacts of viewpoint transition and proprioceptive feedback on spatial learning in virtual reality. *AAG Annual Meeting*, New Orleans, LA (04/11/2018).
12. Walking and Learning in a Large-Scale Mediated Space: The impacts of viewpoint transition on spatial learning in virtual reality. *Thinking Within 2017*, University Park, PA (12/02/2017)
13. Developing a VR Toolbox for Geoscience Research and Education. *AAG Annual Meeting*, Boston, MA (04/06/2017)
14. iVR for the Geosciences. *KELVAR Workshop (IEEE VR)*, Los Angeles, CA (03/19/2017)
15. iVR in Education: Collecting, Visualizing, and Sharing Information in a Virtual Space. *MAD-AAG*, Fairfax, VA (11/18/2016)
16. Visualizing Distant Objects on Mobile Phones: Choice of Resizable Icons. *AutoCarto*, Albuquerque, NM (09/16/2016)
17. Using Resizable Icons to Visualize Distant Landmarks on Mobile Devices [poster]. *The 2015 New York State Geospatial Conference*, Albany, NY (10/28/2015–10/30/2015)

STUDENT SUPERVISION

- Julia Llorc Marin (2022-present, Wageningen University & Research, master thesis co-supervisor)
- Raphael Zurcher (2021-present, Wageningen University & Research, master thesis co-supervisor)
- Julia Green (2021-2022, University of Arkansas at Little Rock, master thesis co-supervisor)
- Yu Zhong (2017-2018, The Pennsylvania State University, undergraduate research supervisor)

HONORS AND AWARDS

2018, 2019	Winner of the AAG EPBG Specialty Group Saarinen Student Paper Competition
2018	Outstanding Research Assistant, Department of Geography, Penn State
2017, 2018	Erickson Fund in Geography, Department of Geography, Penn State

2016-2020	Penn State Geography Graduate Assistantship
2016	David Mark Prize in Geography, University at Albany
2015	AAG Cartography Specialty Group Master's Thesis Research Grants
2013	Second-class scholarship, Central South University
2012	Third-class scholarship, Central South University

PROFESSIONAL SERVICES

Editor, Co-Editor, and Guest-Editor of Journals

- Guest Editor on *Frontiers in Virtual Reality for Human Spatial Perception, Cognition, and Behaviour in Extended Reality*

Conference Engagement

2022/06	Program committee member, iLRN 2022 - 8th International Conference of the Immersive Learning Research Network, Vienna, Austria
2021/11	Program committee member, DIGITAL 2021: Advances on Societal Digital Transformation, Athens, Greece
2021/09	Student poster judge, the 2021 DART Annual Conference (online)
2020/03	Conference volunteer, IEEE VR 2020, Atlanta, GA
2019/04	Session chair, Spatial Cognition in Virtual Environments: Opportunity Through Immersive Technologies. AAG 2019, Washington, D.C.
2018/09	Workshop co-organizer, Virtual environments as geo/spatial labs, Spatial Cognition 2018, Tübingen, Germany
2017/03	Conference volunteer, IEEE VR 2017, Los Angeles, CA

Invited Reviewer

2022	iLRN 2022: 8th International Conference of the Immersive Learning Research Network (3) Annals of the American Association of Geographers Virtual Reality SN Applied Sciences
2021	Computers in Human Behavior Reports SAGE Open DIGITAL 2021: Advances on Societal Digital Transformation (3) Geosciences IEEE Transactions on Learning Technologies Teaching and Learning in Medicine Computers and Geosciences Sustainability Virtual Reality Computers iLRN 2021: 7th International Conference of the Immersive Learning Research Network (4) Behaviour & Information Technology Journal of Environmental Psychology (2)
2020	Cartography and Geographic Information Science (4) International Journal of Human-Computer Interaction

Annals of the American Association of Geographers
 Journal of Location Based Services
 iLRN 2020: 6th International Conference of the Immersive Learning Research Network
 2019 Journal of Technology in Human Services
 Journal of IEEE Transactions on Visualization and Computer Graphics
 2017 Cartography and Geographic Information Science

Public Outreach and Demonstration

1. **Immersive Technology Open House**, Center for Immersive Experiences, Penn State University, 11/12/2019
2. **SCDC Flash Symposium and Open House**, College of Arts and Architecture, Penn State University, 9/24/2019
3. **Discovery Space**, State College, PA, 3/18/2019
4. **EMS Reception**, AGU Fall Meeting, Washington DC, 12/13/2018
5. **GIS Day**, Pattee Library, Penn State University, 11/13/2018
6. **Virtual Reality Open House**, Earth and Mineral Sciences Library, Penn State University, ~30 participants, 11/08/2018
7. **Haunted-U Science Night**, the Life Sciences Building and Whitmore Laboratory, Penn State University, 10/20/2018
8. **The Immersive Technologies Open House**, Department of Geography, Penn State University, ~20 participants, 10/20/2018
9. **Visiting Professor and students from the Institute of Remote Sensing and GIS within the College of Earth and Space science, Peking University**, 10/2/2018
10. **Central Pennsylvania Festival of the Arts**, State College, Official Penn State Booth, 7/14/2018
11. **EMS Graduation Reception**, Penn State University, 5/04/2018
12. **3D and Immersive Technologies for Geospatial Sciences session**, AAG Annual Meeting, New Orleans, LA, 4/13/2018
13. **Thinking Within Symposium**, the Penn State Stuckeman School, Penn State University, ~43 participants, 12/2/2017
14. **The Nittany Jamboree Scout event**, Medlar Field, Penn State University, 9/16/2017
15. **PSU Immersive Reality Symposium (Industry and Showcases)**, HUB-Robeson Center, Penn State University, 10/31/2016

SKILLS

Computer Software Unity3D, Android Studio, RStudio, SPSS, CloudCompare, Agisoft Metashape, Qualtrics, WordPress, LaTeX, MeshLab, Firebase, Esri ArcGIS, ERDAS Imagine, Mapbox

Programming C#, R, Java, Python, JavaScript, CSS, GNU Octave