

Matthew Haffner

ASSOCIATE PROFESSOR · DEPARTMENT OF GEOGRAPHY AND ANTHROPOLOGY · UNIVERSITY OF WISCONSIN - EAU CLAIRE
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Academic interests: Spatial Data Science, Computational Urban Geography, Rural Health

Professional Employment

Associate Professor, Dept. of Geography and Anthropology, University of Wisconsin - Eau Claire 2024+
Research Affiliate, Mayo Clinic 2023+
Assistant Professor, Dept. of Geography and Anthropology, University of Wisconsin - Eau Claire 2018-2024

Education

Oklahoma State University *Stillwater, Oklahoma*
DOCTOR OF PHILOSOPHY IN GEOGRAPHY *Aug. 2014 - May 2018*

- Dissertation: Assessing the validity of location-based social media in the study of spatial processes
- Comprehensive exam areas: GIScience, Urban Geography, the GeoWeb
- Co-advisors: G. Allen Finchum, Adam J. Mathews

Oklahoma State University *Stillwater, Oklahoma*
MASTER OF SCIENCE IN GEOGRAPHY *Aug. 2012 - July 2014*

- Thesis: Measuring social interaction potential in Oklahoma City and Tulsa
- Advisor: Hongbo Yu

Pittsburg State University *Pittsburg, Kansas*
BACHELOR OF SCIENCE IN SECONDARY EDUCATION *Aug. 2007 - May 2012*

- Majors: Geography and Mathematics

Publications

MANUSCRIPTS UNDER REVIEW/PREPARING FOR SUBMISSION

Weichelt, R. **M. Haffner**, and M. Goettl. An evaluation of cellular signal strength for remote telehealth in western Wisconsin. *To be submitted Summer 2026.*

Frawley, E., M. Arnold, **M. Haffner**, K. Heinis, D. Lehman, and D. Zeuess. A Spatial Analysis of Cycling Safety Perceptions in Marburg, Germany: A Comparative Replication Study. *To be submitted Spring 2026.*

Haffner, M., M. Presler, K. Stancyzk, R. Weichelt, R. Weichelt, and P. R. Horvath. Patient Perspectives in the Wake of a Rural Clinic Closure: A Case Study in Elmwood, Wisconsin. *Draft under Mayo Sci Pubs review; to be submitted Spring 2026.*

Craig, T. R., **M. Haffner**, J. P. Brasher. Gateway or Gatekeeper? Introductory GIS Course Placement in Undergraduate Geography Programs. *Undergoing revisions, submitted 2026.*

Haffner, M., R. Weichelt, T. Ruohoniemi, and P. R. Horvath. Effect of a Rural Clinic Closure on Clinical and Operational Quality Outcomes. *Under review, submitted 2025.*

PEER-REVIEWED JOURNAL ARTICLES AND CONFERENCE PROCEEDINGS

- Haffner, M.**, N. Walker, S. Grunzke, and M. St. Ores. A spatial and demographic analysis of cycling safety perceptions: A case study in Eau Claire, Wisconsin, USA. *REGION* 11 (2):119-147. <https://doi.org/10.18335/region.v11i2.480>. **2024**.
- Haffner, M.** Replicable and extensible spatial data acquisition. *Cartography and Geographic Information Science* 1-14. <https://doi.org/10.1080/15230406.2024.2409208>. **2024**.
- Haffner, M.**, M. Dewitte, P. Rozario, and G. Ovando-Montejo. A neural network-based landscape search engine: LSE Wisconsin. *Applied Sciences*. <https://doi.org/10.3390/app13169264>. **2023**.
- Haffner, M.**, P. Hagge, C. Brown, R. Heyrman, and C. Perkins. Fusing machine learning with place-based survey methods: Revisiting questions surrounding perceptual regions. *International Journal of Geographical Information Science* 36 (11): 2226-2247. <https://doi.org/10.1080/13658816.2022.2097683>. **2022**.
- Haffner, M.** A framework for place-based survey implementation. *Spatial Cognition XII. Spatial Cognition 2020. Lecture Notes in Computer Science*, vol. 12162. Eds. J. Škilters, N. S. Newcombe, and D. Uttal. 88-94. https://link.springer.com/chapter/10.1007/978-3-030-57983-8_7. August **2020**.
- Haffner, M.** and J. C. Comer. An interactive point pattern analysis web application and teaching exercise. *Journal of Geography in Higher Education* 43 (4): 568-581. <https://doi.org/10.1080/03098265.2019.1660866>. **2019**.
- Ochsner, T., E. Linde, **M. Haffner**, and J. Dong. Mesoscale soil moisture patterns revealed using a sparse in situ network and regression kriging. *Water Resources Research* 55(6): 4785-4800. <https://doi.org/10.1029/2018WR024535>. **2019**.
- Fekete, E. and **M. Haffner**. Twitter and academic geography through the lens of #AAG2018. *Professional Geographer* 71(4): 751-761. <https://doi.org/10.1080/00330124.2019.1622428>. **2019**.
- Haffner, M.** A place-based analysis of #BlackLivesMatter and counter-protest content on Twitter. *GeoJournal* 84(5): 1257-1280. <https://doi.org/10.1007/s10708-018-9919-7>. **2018**.
- Haffner, M.** A spatial analysis of non-English Twitter activity in Houston, TX. *Transactions in GIS* 22(4): 913-929. <https://onlinelibrary.wiley.com/doi/abs/10.1111/tgis.12335>. **2018**.
- Haffner, M.**, A. J. Mathews, E. Fekete, and G. A. Finchum. Location-based social media behavior and perception: Views of university students. *Geographical Review* 108(2):203-224. <https://doi.org/10.1111/gere.12250>. **2018**.
- Mathews, A. J., **M. Haffner**, and E. Ellis. GIS-based modeling of tornado siren sound propagation: Refining spatial extent and coverage estimations. *International Journal of Disaster Risk Reduction* 23:36-44. <https://doi.org/10.1016/j.ijdrr.2017.04.004>. **2018**.

BOOK CHAPTERS

- Haffner, M.** Twitter. In *Geographies of the Internet*, B. Warf (ed.). Cheltenham, UK: Routledge. 277-291. **2020**.

MAPS

- Haffner, M.** Location of Greenwood Historic District Within Tulsa's Contemporary Food Desert. In *Resilience, Environmental Justice, and the City*. Eds. B. H. Caniglia, M. Vallee, and B. Frank. pp. 84. **2017**.

Professional Presentations

- Haffner, M.*** A Spatial Analysis of Cycling Safety Perceptions: A Reproducible, Replicable, and Extensible Approach. *Oklahoma State University Department of Geography Colloquium Series*. Stillwater, Oklahoma. Research talk. March **2026**.
- Haffner, M.*** A Spatial and Demographic Analysis of Cycling Safety Perceptions in Eau Claire, Wisconsin: A Geospatial Web Application and Literate Programming Approach. *Wisconsin Land Information Association Annual Conference*. Wisconsin Dells, Wisconsin. Session. February **2026**.
- Haffner, M.*** Debunking common myths about urban and regional planning. *UWEC Ask a Scientist Series*. Two Roots Art and Wine Gallery. Eau Claire, Wisconsin. February **2026**.
- Haffner, M.*** Spatial Statistical Discovery Through Simulation. *West Lakes Division of the American Association of Geographers Annual Meeting*. Milwaukee, Wisconsin. Paper presentation. October **2025**.
- Haffner, M.*** Replicable and Extensible Spatial Data Acquisition *American Association of Geographers Annual Meeting*. Detroit, Michigan. Paper presentation. April **2025**.
- Heinis, K.*, D. Lehman, D. Zuess, and **M. Haffner**. Spatial perceptions of bicycle safety in Marburg, Germany. *American Association of Geographers Annual Meeting*. Detroit, Michigan. Poster presentation. April **2025**.
- Haffner, M.*** From Theory to Practice: Cultivating Geospatial Success in Industry. *Wisconsin Land Information Association Annual Conference*. Appleton, Wisconsin. Career Connections Session. February **2025**.
- Consiglio, S.*, M. Dekhan, R. Weichelt, **M. Haffner**, and M Goettl. Assessing cellular signal strength for the purpose of telehealth in Dunn County, Wisconsin. *West Lakes Division of the American Association of Geographers Annual Meeting*. Kalamazoo, Michigan. Poster presentation. October **2024**.
- Lehman, D.*, K. Heinis, D. Zuess, and **M. Haffner**. Spatial perceptions of bicycle safety in Marburg, Germany. *West Lakes Division of the American Association of Geographers Annual Meeting*. Kalamazoo, Michigan. Poster presentation. October **2024**.
- Haffner, M.*** A geographer's search for the ultimate presentation workflow or "An autoethnographic presentation about presentations." *West Lakes Division of the American Association of Geographers Annual Meeting*. Kalamazoo, Michigan. October **2024**.
- Haffner, M.***, P. Hagge, C. Brown, R. Heyrman, and C. Perkins. Fusing machine learning with place-based survey methods: Revisiting questions surrounding perceptual regions. *West Lakes Division of the American Association of Geographers Annual Meeting*. Chicago, Illinois. October **2023**.
- A. Bast, C. Seager, R. Weichelt*, **Haffner, M.***, and M. Goettl*. A spatial analysis of cellular signal strength in Western Wisconsin. *Transforming Community & Rural Healthcare: Digital Health and Workforce Innovation*. Rochester, Minnesota. September **2023**.
- M. Guetschow*, A. DeRosa, **Haffner, M.** Tying object detection to location: A case study using GPS video data and the R Project for Statistical Computing. *National Conference on Undergraduate Research*. Eau Claire, Wisconsin. Poster presentation. May **2023**.
- Haffner, M.*** The Development of a Wisconsin Landscape Search Engine. *Wisconsin Land Information Association*. Eau Claire, Wisconsin. Session. May **2023**.
- Haffner, M.*** Feature engineering for spatial data with R. *Twin Cities R User Group*. Minneapolis, Minnesota. Virtual talk. August **2021**.

- Haffner, M.*** Replicable and extensible spatial data acquisition. *South Dakota State Geography Convention*. South Dakota State University. Keynote presentation. March **2021**.
- Haffner, M.*** Casting a vision for Libre Geo: A framework for collaborative, open-access, and interactive GIS educational resources. *Free and Open Source for Geoospatial (FOSS4G)*. Bucharest, Romania. Talk. August **2019**.
- Haffner, M.*** A place-based analysis of #BlackLivesMatter and counter-protest content on Twitter. *American Association of Geographers Annual Meeting*. Washington, D.C. Paper presentation. April **2019**.
- Haffner, M.*** and J. C. Comer. An interactive point pattern analysis web application and teaching exercise. *West Lakes Division of the American Association of Geographers Annual Meeting*. La Crosse, Wisconsin. Poster presentation. November **2018**.
- Comer, J. C.* and **M. Haffner**. An interactive point pattern analysis web application and teaching exercise. *Southwest American Association of Geographers Annual Meeting*. Manhattan, Kansas. Paper presentation. October **2018**.
- Haffner, M.*** A spatial analysis of non-English Twitter activity in Houston, Texas. *American Association of Geographers Annual Meeting*. New Orleans, Louisiana. Paper presentation. April **2018**.
- Finchum, G. A.* and **M. Haffner**. How good is Twitter data: Comparing phone usage patterns using social media vs. calculated home location. *American Association of Geographers Annual Meeting*. New Orleans, Louisiana. Poster presentation. April **2018**.
- Haffner, M.***, A. J. Mathews, E. Fekete, and G. A. Finchum. Location-based social media behavior and perception: Views of university students. *Southwest American Association of Geographers Annual Meeting*. Huntsville, Texas. Paper presentation. November **2017**.
- Haffner, M.*** The development of shp2nosql: Command line tools for spatial data and NoSQL databases. *American Association of Geographers Annual Meeting*. Boston, Massachusetts. Paper presentation. April **2017**.
- Haffner, M.***, A. J. Mathews, and E. Ellis. GIS-based modeling of tornado siren sound propagation in Stillwater, Oklahoma. *Southwest American Association of Geographers Annual Meeting*. Denton, Texas. Poster presentation. November **2016**.
- Haffner, M.*** and A. J. Mathews. A multi-dimensional topology for crowd-sourced geographic information. *NSF Workshop on Geospatial Data Science in the Era of Big Data and CyberGIS*. Urbana, Illinois. Paper presentation. July **2016**.
- G. A. Finchum*, **M. Haffner**, A. J. Mathews, and E. Fekete. Analyzing smartphone usage patterns at colleges with strong gender differences using social media. *Association of American Geographers Annual Meeting*. San Francisco, California. Poster presentation. April **2016**.
- Haffner, M.*** Conquering big spatial data: Towards a new philosophy in geographic information science. *Oklahoma State University Research Symposium*. Poster presentation. February **2016**.
- Ochsner, T. E.*, J. Dong, **M. Haffner**, A. Patrignani, J. C. Patton. Developing an operational system for daily 800-m resolution soil moisture estimates across Oklahoma. *American Geophysical Union Fall Meeting*. San Francisco, California. Paper presentation. December **2015**.
- Patton, J. C.*, T. E. Ochsner, A. Patrignani, J. Dong, **M. Haffner**. Towards a high resolution soil moisture map of Oklahoma. *American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America Annual Meeting*. Minneapolis, Minnesota. Poster presentation. November **2015**.

Haffner, M.*, H. Yu. Measuring social interaction potential in Oklahoma City and Tulsa. *Association of American Geographers Annual Meeting*. Chicago, Illinois. Paper presentation. April **2015**.

Finchum, G. A.* , **M. Haffner**. Using Twitter data to analyze mobile device usage patterns in urban areas. *Association of American Geographers Annual Meeting*. Chicago, Illinois. Poster presentation. April **2015**.

Haffner, M.* Using ArcGIS, Python, and R to measure social interaction potential in Tulsa and Oklahoma City. *Oklahoma South Central Arc User Group Meeting*. Moore, Oklahoma. Technical presentation. September **2014**.

Haffner, M.* Measuring social interaction potential in Tulsa and Oklahoma City: A case study. *Oklahoma State University Research Symposium*. Stillwater, Oklahoma. Paper presentation. April **2014**. * Presenting author(s)

Teaching Experience

COURSES TAUGHT AS INSTRUCTOR OF RECORD

University of Wisconsin - Eau Claire

Eau Claire, Wisconsin

June 2018 - present

- **GEOG-499** *Independent Study*
- **GEOG-491** *Geography Capstone*
- **GEOG-498** *Geography Internship*
- **GEOG-470** *Urban Geography*
- **GEOG-399** *Directed Study*
- **GEOG-368** *Geography Field Seminar* (taught as *Geography of Oregon*)
- **GEOG-435** *Geographic Information Systems III*
- **GEOG-337** *Geographic Information Systems II*
- **GEOG-335** *Geographic Information Systems I* (online)
- **GEOG-335** *Geographic Information Systems I*
- **GEOG-370** *Quantitative Methods in Geography*
- **GEOG-270** *Introduction to Urban and Regional Planning*
- **GEOG-111** *Planet Earth: Human Geography*
- **IDIS-187** *Integrative Seminar*

Oklahoma State University

Stillwater, Oklahoma

Aug. 2012 - Dec. 2015

- **GEOG-1113** *Introduction to Cultural Geography* (lecture)
- **GEOG-1114** *Introduction to Physical Geography* (lecture)
- **GEOG-1114** *Introduction to Physical Geography* (laboratory)

Workshops & Invited Lectures

Streamlining Course Set-Up Using the Canvas API. *Center for Excellence in Teaching and Learning (CETL) – University of Wisconsin - Eau Claire*. Successful Teaching Practices workshop. January **2026**.

An introduction to R for data analysis (one hour workshop). *International Association of Crime Analysts*. Online webinar. June **2022**.

An introduction to R for geovisualization, web mapping, and web applications (half-day workshop). *Wisconsin Land Information Association Annual Conference*. Elkhart, Lake, Wisconsin. February **2022**.

An introduction to R for geovisualization, web mapping, and spatial analysis (half-day workshop). *Minnesota GIS/LIS Consortium Annual Conference*. St. Cloud, Minnesota. October **2021**.

Reproducible data acquisition. *Faculty/Academic Staff Forum*. University of Wisconsin - Eau Claire Office of Research and Sponsored Programs. March **2021**.

The changing landscape of GIS, GIScience, and Spatial Data Science. *Archaeology Brown Bag - Department of Anthropology*. University of Wisconsin - Madison. September **2020**.

GIS Programming with R (half-day workshop). *Wisconsin Land Information Association Annual Conference*. Middleton, Wisconsin. February **2020**.

GIS Programming with R (half-day workshop). *Minnesota GIS/LIS Consortium Annual Conference*. St. Cloud, Minnesota. October **2019**.

GIS Programming with R (half-day workshop). *Wisconsin Land Information Association Annual Conference*. Appleton, Wisconsin. February **2019**.

Maintaining graduate student life. In *GEOG-5001 - Professional Development in Geography*. Oklahoma State University. November **2017**, November **2016**.

Big data, spatial data science, and volunteered geographic information. In *GEOG-2344 - Digital Tools for Environmental Exploration*. Oklahoma State University. September **2017**.

High performance computing in the social sciences. In *MATH-2910 - High Performance Computing*. Oklahoma State University. March **2016**.

The emergence of urban segregation in the United States. In *GEOG-1113 - Introduction to Cultural Geography*. Oklahoma State University. March **2016**.

GIS programming with PostgreSQL and PostGIS. In *GEOG-4383 - Introduction to GIS Programming*. Oklahoma State University. March **2016**.

Volunteered geographic information, Twitter, and big data. In *GEOG-2344 - Digital Tools for Environmental Exploration*. Oklahoma State University. January **2016**, November **2015**.

Grants & Awards

2025	Summer Research Experiences for Undergraduates Grant (\$7,500)	<i>Office of Research and Sponsored Programs, UWEC</i>
2025	Research Innovation Council Grant: Rural Clinic Closures - Phase II (PI; \$73,386)	<i>Mayo Clinic / UWEC</i>
2024	Research Innovation Council Grant: A Spatial Analysis of Cellular Signal Strength in Western Wisconsin - Phase II (CO-PI; \$81,654)	<i>Mayo Clinic / UWEC</i>
2024	Hessen Incentive Grant: Urban Analytics in German Cities (\$5,000)	<i>Office of Academic and Student Affairs, Universities of Wisconsin</i>
2024	Summer Research Experiences for Undergraduates Grant (\$6,963)	<i>Office of Research and Sponsored Programs, UWEC</i>
2022	Research Innovation Council Grant: Impact of Rural Clinic Closures (CO-PI; \$40,178)	<i>Mayo Clinic / UWEC</i>
2022	Research and Innovation Council Grant: A Spatial Analysis of Cellular Signal Strength in Western Wisconsin (CO-PI; \$65,000)	<i>Mayo Clinic / UWEC</i>

2022	Summer Research Experiences for Undergraduates Grant (\$7,500)	Office of Research and Sponsored Programs, UWEC
2021	Summer Research Experiences for Undergraduates Grant (\$7,304)	Office of Research and Sponsored Programs, UWEC
2019	Fall Research Experiences for Undergraduates Grant (\$2,400)	Office of Research and Sponsored Programs, UWEC
2019	Summer Research Experiences for Undergraduates Grant (\$6,900)	Office of Research and Sponsored Programs, UWEC
2019	Workshops and Special Travel Grant (\$1,550)	Office of Research and Sponsored Programs, UWEC

Professional Memberships

American Association of Geographers	Nov. 2014 - Present
Minnesota GIS/LIS Consortium	Sept. 2019 - Present
Wisconsin Land Information Association	April 2021 - Present
Gamma Theta Upsilon (Geography Honor Society)	May 2013 - Present
American Geographical Society	Apr. 2017 - Dec. 2019

Professional Service

Committee Member. *Bicycle and Pedestrian Advisory Committee (BPAC).* City of Eau Claire, Wisconsin. **2026** - present.

Committee Chair. *Departmental Personnel Committee.* Department of Geography and Anthropology, University of Wisconsin - Eau Claire. **2025** - present.

Committee Member. *Departmental Personnel Committee.* Department of Geography and Anthropology, University of Wisconsin - Eau Claire. **2024** - present.

Committee Member. *Vision for Distinction (Team 5: Set Standards for Selectivity).* University of Wisconsin - Eau Claire. **2024.**

Committee Member. *Enrollment Cabinet.* Enrollment Management Division, University of Wisconsin - Eau Claire. **2024.**

Faculty Sponsor. *UWEC Running Club.* University of Wisconsin - Eau Claire. **2024-present.**

Faculty Sponsor. *UWEC Bike Club.* University of Wisconsin - Eau Claire. **2024-present.**

External Program Reviewer. *Anthropology and Geography major.* Arkansas Tech University. **2024.**

Manuscript Reviewer.

- *Journal of Open Research Software* (2026)
- *International Journal of Data Science and Analytics* (2026 [2])
- *Geographical Review* (2026, 2024, 2020, 2018)
- *Cartography and Geographic Information Science* (2025 [2], 2024, 2023)
- *ISPRS Journal of Photogrammetry and Remote Sensing* (2022 [2])
- *International Journal of Geo-Information* (2022 [3])
- *International Journal of Applied Geospatial Research* (2022, 2021 [2], 2018)
- *GeoJournal* (2021, 2020, 2019)
- *Urban Policy and Research* (2020)
- *Journal of Transport Geography* (2020)
- *Geographic Information Science & Technology Body of Knowledge* (2020)
- *Professional Geographer* (2019, 2018)

Grant Application Reviewer.

- *Taylor Geospatial Institute Seed Grant Program to Stimulate Collaborative Research (GISCoR)* (2023 [7])

Faculty Mentor for Undeclared Students. *College of Arts and Sciences.* University of Wisconsin - Eau Claire. September **2022 - 2024.**

Curriculum Committee Member. *Department of Geography and Anthropology Curriculum Committee.* University of Wisconsin - Eau Claire. September **2022 - present.**

Curriculum Committee Chair. *Department of Geography and Anthropology Curriculum Committee.* University of Wisconsin - Eau Claire. September **2022 - 2025.**

Internship Director. *Department of Geography and Anthropology.* University of Wisconsin - Eau Claire. **2021 - present.**

Curriculum Committee Member. *Department of Geography and Anthropology Curriculum Committee.* University of Wisconsin - Eau Claire. September **2021 - present.**

Participant and Lead Coordinator. *Academic Strategic Plan Summer Project: Course-embedded Undergraduate Research, Scholarship, and Creative Activity (URSCA) for the Department of Geography & Anthropology.* Office of Research and Sponsored Programs, University of Wisconsin - Eau Claire. Summer **2021.**

Scholarship Selection Committee Member. *Department of Geography and Anthropology.* University of Wisconsin - Eau Claire. Spring **2021.**

McNair Scholar Mentor. *The Division of Equity, Diversity, Inclusion and Student Affairs (EDISA).* University of Wisconsin - Eau Claire. August **2020 - 2021.**

Geospatial Board Chair. *Department of Geography and Anthropology.* University of Wisconsin - Eau Claire. August **2020 - July 2021.**

Curriculum Committee Member. *College of Arts and Sciences Curriculum Committee.* University of Wisconsin - Eau Claire. August **2019 - present.**

Search Committee Member. *Critical nature - society geographer position.* University of Wisconsin - Eau Claire. September - December **2018.**

Technical Skills

Spatial analysis/GIS	R, Python, PostGIS, QGIS, GeoDa, MATLAB Mapping Toolbox, ArcGIS
Databases/NoSQL	ElasticSearch, PostgreSQL, MongoDB, MS SQL Server
Languages	R, Python, Emacs Lisp, Bash, LaTeX, MATLAB, SQL
AWS	EC2, S3, RDS, Route 53, CloudWatch, Lightsail
Operating systems	Manjaro, Debian, Windows Server
Web Frameworks	Shiny, Hugo
Editors/IDEs	Emacs (Spacemacs), Vim, RStudio
DevOps	Docker, Linode, RStudio Server, Shiny Server, GitLab CI/CD
Presentation software	xaringan, remark.js, reveal.js
Certifications	Base SAS Programming for SAS 9
Report generation	R Markdown, Org mode for Emacs, Jupyter Notebook
Web scraping	R packages: RSelenium, rvest
Unit testing	R package: testthat
Visualization	R packages: ggplot2, leaflet, leaflet.extras, openlayers, rgl, rayshader; deck.gl
Miscellaneous	Git, Netlify, High Performance Computing, Inkscape

Software Projects & Consulting

PROJECTS

mapsurvey R package

<https://gitlab.com/mhaffner/mapsurvey>

LEAD DEVELOPER

- R package for place-based survey implementation; UWEC-funded research project

sfe R package

<https://gitlab.com/mapsurvey/sfe>

LEAD DEVELOPER

- R package for spatial feature engineering; UWEC-funded research project

Cycling Safety web applications

<https://uwec-geog.shinyapps.io/cycling-safety-ec/>

LEAD DEVELOPER

- Shiny applications for collecting and exploring cycling safety perceptions in Eau Claire (WI), Marburg (Germany), and Tampere (Finland); UWEC-funded research project

Cellular Signal Strength web application

<https://uwec-geog.shinyapps.io/cellular-signal-strength/>

LEAD DEVELOPER

- Shiny application for assessing cellular signal strength and estimating video call completion probability in Eau Claire and Dunn counties, WI; UWEC-funded research project

Wisconsin Landscape Search Engine web application

<https://uwec-geog.shinyapps.io/lse-wi/>

LEAD DEVELOPER

- Neural network-based landscape search engine for Wisconsin; UWEC-funded research project

Landscape Density Plot web application

<https://geohaff.com/apps/density-plot/>

SOLE DEVELOPER

- Web application for segmenting landscape photos with SAM and rendering 1D KDE density curves; independent project

examgen R package<https://gitlab.com/mhaffner/examgen>

SOLE DEVELOPER

- R package for creating randomized exam questions and response options; independent project

ispat web application<https://uwec-geog.shinyapps.io/ispat/>

SOLE DEVELOPER

- Interactive Shiny application for teaching quadrat and nearest neighbor analysis; independent project

Libregeo GIS education platform<https://libregeo.com>

LEAD DEVELOPER

- Framework for collaborative, open-access, and interactive GIS&T education resources; independent project

shp2nosql command line tools<https://github.com/mhaffner/shp2nosql>

SOLE DEVELOPER

- Command line tools for working with spatial data and NoSQL databases; independent project

Database maintenance and enhancementhttp://nr2_shpo.okstate.edu

CONSULTANT

- Database maintenance and enhancement project; State Historic Preservation Office of Oklahoma

Soil Moisture Mapping<http://soilmoisture.okstate.edu>

GIS PROGRAMMER

- Developing an operational system for daily high-resolution soil moisture estimates across Oklahoma; Department of Plant and Soil Sciences, Oklahoma State University

CONSULTING CLIENTS

City of Fountain City, Wisconsin

2026

Premium Farms, LLC

2021

Minnesota GIS/LIS Consortium

2019 - 2020

State Historic Preservation Office of Oklahoma City

2018 - present

Ministry of Natural Resources, Kurdistan Regional Government

2017