

Websites:
[Digital Portfolio](#)
[LinkedIn](#)

Rob Hendrickson
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Objective:
An instructing position in
geographic information science.

- Education:** **Master of Geographic Information Science** May 2023
University of Minnesota - Twin Cities, Minneapolis, MN
Notable Coursework: GIS in Environmental Science and Management, Urban GIS, ArcGIS I & II, Data Visualization, Spatial Database Design, Numerical Spatial Analysis, Research Problems in GIS
- Bachelor of Science, Mathematics** May 2017
University of Minnesota - Twin Cities, Minneapolis, MN
Notable Coursework: Mathematical Analysis of Biological Networks, Dynamical Systems and Chaos, Mathematical Modeling, Environmental Biology, Environmental Physics, Ecology
- Teaching Experience:** **Advanced Geospatial Analysis (Instructor)** Aug - Dec 2024
Macalester College, St. Paul, MN
Topics Covered: Autocorrelation, Point Pattern, Interpolation, Regression, Networks
- Led a self-designed course introducing foundations of advanced geospatial analysis
 - Weekly tasks included: Lectures, Discussions, Student Support Hours, Lab instruction in ArcPro's ModelBuilder, Composing Feedback, Email Correspondence & Group Project Management
- Principles of Geocomputing (Teaching Assistant)** Jan - May 2023
University of Minnesota - Twin Cities, Minneapolis, MN
- Graded lab assignments, weekly activities, exams, and projects for over 50 students
 - Guest lectured and hosted student support hours twice a week
 - Corresponded regularly with students, professor, and technical support professionals
- Numerical Spatial Analysis (Teaching Assistant)** Jan - Dec 2022
University of Minnesota - Twin Cities, Minneapolis, MN
- Led the weekly computer lab and discussion section of the course
 - Co-designed 10 weeks of lab assignments, code demonstrations, and class discussions
 - Guest lectured, provided feedback on assignments, and hosted student support hours
- Mapping Our World (Teaching Assistant)** Sept - Dec 2021
University of Minnesota - Twin Cities, Minneapolis, MN
- Graded assignments, exams, and projects for 50 students
 - Answered emails and chat questions
- Math Enrichment Tutor** Aug 2019 - June 2021
Minnesota Math Corps, Minneapolis, MN
- Developed and maintained a weekly tutoring schedule for 15 students aged 9 - 15
 - Implemented prescribed math interventions and assessed students' progress
 - Documented daily activity and corresponded with various coaches

Research

- Experience:** **Research Assistant (Geocomputation)** Jan - Mar 2025
Macalester College, St. Paul, MN
- Collaborated with Professor Xavier Haro-Carrión on a project to model tree diversity in Ecuador over the past decade
 - Utilized various spectral layers and ground truth observations to create, validate, and implement SciKitLearn Random Forest Regression models
 - Prepared visualizations, modules, and a Github Repository to assist future work
- Independent Researcher (GIS 8990)** Jan - May 2023
University of Minnesota - Twin Cities, Minneapolis, MN
- Explored scaling relationships between human mobility and transportation sector carbon outflow at various spatio-temporal resolutions
 - Cleaned and aggregated terabytes of mobile device trajectories and carbon emissions
 - Presented research at the 2023 AAG Conference in Denver
- Research Assistant (GeoDI Lab)** June - Aug 2022
University of Minnesota - Twin Cities, Minneapolis, MN
- Managed big data input and output of mobile device trajectories
 - Conducted exploratory spatial network analysis and community detection
 - Created various maps and data visualizations to primary investigator's specifications
- Undergraduate Researcher in Mathematical Ecology** May - Aug 2016
University of Wisconsin - La Crosse, La Crosse, WI
- Co-developed and simulated a mathematical model to determine ecologically-sound methods to eradicate Schistosoma parasites that cause Swimmers' Itch
 - Extensively read literature to become familiar with the ecology of Swimmer's Itch
 - Collected and dissected snails, analyzed their gonads under a microscope, and recorded data to determine parasite prevalence in nearby bodies of water
 - Presented results at 2017 Joint Mathematics Meeting in Atlanta

Presentations:

- "Exploring the Scaling Relationships between Human Mobility and Air Pollutants in the Twin Cities,"
American Association of Geographers Annual Meeting, Oral Presentation. Denver, CO, Mar 2023
- "Mathematical Model of Swimmer's Itch with Praziquantel Treatment,"
Joint Mathematics Meeting, Undergraduate Poster Session. Atlanta, GA, Jan 2017
- "Mathematical Model of Swimmer's Itch with Praziquantel Treatment,"
Summer Celebration of Undergraduate Research, Poster Session. La Crosse, WI, Aug 2016

Professional

- Experience:** **Southside Green Zone Councilmember** July 2022 - Present
City of Minneapolis, Minneapolis, MN
- Volunteer, appointed position in the City of Minneapolis focused on environmental justice issues, including pollution and racial & economic marginalization
 - Advise city council, staff, and departments on policies and decisions
 - Engage and collaborate with neighbors, organizations, and other stakeholders
 - Review grant applications and organize workshops

Independent Contractor

Jan 2024 - Apr 2024

City of Minneapolis Health Department, Minneapolis, MN

- Co-developed a project to create a real-time, hyper-local text alert and reporting system for poor air quality events in Minneapolis
- Coordinated with various stakeholders including government officials and employees, researchers, non-profits, community organizations, and residents
- Consistently contributed to and managed the open-source project on GitHub

University**Service:****Communications Officer (GIS Student Organization)**

May 2022 - May 2023

University of Minnesota - Twin Cities, Minneapolis, MN

- Facilitated outreach efforts and monitored student organization emails & website
- Composed communications about events to students, professionals, and companies
- Co-organized the 2023 GIS Career Fair with 26 vendors and over 50 attendees

Technical Skills:

Geographic Information Systems - ArcPro/ArcPy, QGIS, PostGIS/SQL, Geopandas/PySAL/Rasterio

Computational Programming - Python, MATLAB, R

Other - Canvas/Moodle, Zoom, GitHub, Linux OS (Ubuntu), L^AT_EX