PATRICK DANSO

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RESEARCH INTERESTS

Geospatial modeling of healthcare accessibility; telehealth and regulatory geography; spatial and spatio-temporal sensitivity analysis; health disparities in rural and underserved regions; urban change and housing dynamics; GeoAI; spatial data science (GIS, Python, R).

EDUCATION

Ph.D. in Geography (Health/Medical Geography), University of Florida, Gainesville, FL *2025 – present*

Advisor: Dr. Liang Mao. Dissertation research on spatial accessibility modeling of telehealth and healthcare services.

M.S. in Geography and the Environment, Texas Tech University, Lubbock, TX *2023 – 2025*

GPA: 4.0/4.0. Thesis: Tracing the Effects of Studentification in a Mid-Sized City (published in Geographical Review, 2026). Advisor: Dr. Perry Carter.

B.A. in Economics and Geography, University of Cape Coast, Ghana *2017 – 2021*

GPA: 3.8/4.0. Dean's List, Faculty of Social Sciences (2018, 2019).

PEER-REVIEWED PUBLICATIONS

Danso, P., & Mao, L. (2026). Spatio-temporal sensitivity of healthcare accessibility: Insights from a system dynamics model. *Computers, Environment and Urban Systems*, 129, 102491. https://doi.org/10.1016/j.compenvurbsys.2026.102491 [Research supported by the National Institutes of Health; Project Number 1R03AI185905-01A1]

Danso, P., & Carter, P. (2026). Tracing the effects of studentification in a mid-sized city: Lubbock, Texas Tech University, and the five surrounding neighborhoods. *Geographical Review* (American Geographical Society). https://doi.org/10.1080/00167428.2026.2669531

FUNDED RESEARCH

"Modeling and Validating Dynamic Accessibility to Healthcare with a Systems Science Approach." **National Institutes of Health** (Project Number 1R03AI185905-01A1; PI: Liang Mao). Role: graduate researcher — spatio-temporal healthcare accessibility modeling, system dynamics simulation, and global sensitivity analysis.

Graduate School Opportunity Award, University of Florida Graduate School — competitive funding for doctoral research.

DATASETS & RESEARCH SOFTWARE

Danso, P., & Mao, L. (2026). Spatio-Temporal Sensitivity of Healthcare Accessibility [Dataset and code]. *figshare*. https://doi.org/10.6084/m9.figshare.31505704 — 138 views, 108 downloads (as of July 2026). CC BY 4.0.

CONFERENCE PRESENTATIONS

Danso, P. (2026, March 18). Drivers of change in healthcare access: Spatiotemporal sensitivity analysis of a system dynamic model. *Invited paper*, organized session "Symposium on GeoAI for Sustainable Cities and Health Research: GeoAI Innovations and Public Health" (Health and Medical Geography Specialty Group), American Association of Geographers (AAG) Annual Meeting, San Francisco, CA.

Danso, P. (2025, March 28). Tracing the effects of studentification in a mid-size city: Lubbock, Texas Tech University and the five surrounding neighborhoods. Session "Using GIS for Impactful Research in Cities Across America" (GIScience and Systems Specialty Group), AAG Annual Meeting, Detroit, MI.

Danso, P. (2024, November 23–25). Tracing the effects of studentification in a mid-sized city, Lubbock, Texas. 79th Annual Meeting of the Southeastern Division of the AAG (SEDAAG), Greenville, SC.

RESEARCH, TEACHING & WORK EXPERIENCE

Graduate Research Assistant, Department of Geography, University of Florida *2025 – present*

- Research on healthcare accessibility modeling under the NIH-funded project "Modeling and Validating Dynamic Accessibility to Healthcare with a Systems Science Approach"; system dynamics simulation, global sensitivity analysis, and large-scale geospatial computation across Florida.
- Research on telehealth accessibility modeling and regulatory barriers to virtual care in the USA.

Graduate Teaching Assistant / Lab Instructor, Dept. of Geosciences, Texas Tech University *2023 – 2025*

- Instructor for Global Environmental Science and GIS laboratory sections; graded and mentored undergraduate students.

Graduate Research Assistant, Dept. of Geosciences, Texas Tech University *Summer 2024*

- Analyzed large demographic, economic, and property datasets on studentification and real-estate markets using R, Python, and machine-learning methods.

Development Planning Assistant, Ellembelle District Assembly, Ghana (incl. National Service) *2021 – 2023*

- Supported district development planning and project execution using demographic and spatial data analysis.

HONORS & AWARDS

Graduate School Opportunity Award, University of Florida, 2025 • Graduate School Student Travel Award, Texas Tech University ($400), 2024 • Graduate Student Research Support Award, TTU Graduate School ($630, competitive), 2024 • SWAAG Summer Student Field Award (competitive research funding), 2024 • Gary Elbow Scholarship for Academic Excellence, TTU, 2024 • TTU Geosciences Excellence Scholarship, 2024 • Dean's List, University of Cape Coast, 2018 & 2019.

TECHNICAL SKILLS

Programming & analysis: Python (SALib, geospatial stack), R (tidycensus, spatial packages), SQL, Git/GitHub, machine learning, Monte Carlo simulation, global sensitivity analysis. **GIS & spatial:** ArcGIS Pro (advanced), QGIS, OpenStreetMap network analysis, remote sensing, spatial statistics. **Certifications:** CONVERGE Hazards & Disaster Mental Health Research Training (2024).

PROFESSIONAL MEMBERSHIPS & SERVICE

American Association of Geographers (AAG), incl. Health and Medical Geography Specialty Group • Southeastern Division of the AAG (SEDAAG) • Southwestern Division of the AAG (SWAAG). Outreach: author of "Simple Spatial Analysis with R," an open online tutorial series (simplecodes.netlify.app).