YANAN WU

+1 (607) 372-0368 | yxw190021@utdallas.edu | gisynw.com | LinkedIn | GitHub | Medium

SUMMARY

PhD Candidate in the Geospatial Information Sciences Department at the University of Texas at Dallas with 10+ years of professional experience using ArcGIS products. 7 years of academic and research experience as a Teaching Assistant and a Research Assistant. 2 years of teaching experience as an instructor, guiding students to achieve success in learning Geographic Information Science (GIScience) and statistics. Excellent verbal and written communication skills evident by extensive conferences and awards.

EDUCATION

Doctor of Philosophy in Geospatial Information Sciences **May 2024**
The University of Texas at Dallas

Master of Arts in Geography **May 2019**
Binghamton University

Bachelor of Science in Resource Environment and Urban-Rural Planning Management **May 2016**
Xi'an University of Science and Technology, China

SKILLS

Programming: Python, R, JavaScript, SQL

Desktop Software: ESRI Product suite (ArcGIS Pro, ArcGIS Online, ArcGIS Enterprise, ArcMap, API for JavaScript / Python), QGIS, PostgreSQL, Microsoft Office, Teams, VS code, PowerBI

Open Platform: GitHub, Medium

PROFESSIONAL EXPERIENCE

Research Assistant (University of Texas at Dallas & Dallas Fire Rescue Department) **July 2019 – July 2020**
An Integrated Connected Vehicle and Computing Platform for Public Safety Applications

- Developed 168 spatial risk probability models utilizing 250k+ traffic accident data to help with emergency dispatch operation
- Provided vital support to data analysis, model validation, technical report, and project presentation to diverse audience
- Skilled in paper/proposal writing and published 3 papers/abstracts and 2 conference proceedings
- Experienced in technical reporting and documentation showcase in 20+ repositories on GitHub and 7 blogs on Medium

Researcher (University of Texas at Dallas) **August 2020 – Present**
Modeling of emergency incidents with GPS trajectory data using machine learning

- Deploy ArcGIS Enterprise on Lab server to ensure data security and cloud-based environment recovery
- Automated collection of crime incidents using REST API from the city of Dallas Open Data
- Conducted data management, query of 530k+ emergency incidents using PostgreSQL
- Skilled in creation of maps, dashboards, and infographics for effective communication using Web GIS platforms
- Excellent verbal and written skills evident by 20+ presentations, 10 scholarships, and 7 awards in competitions

Instructor – GIS & Statistics (University of Texas at Dallas) **May 2021 – May 2023**

- Led two 75-minute lectures for 20-30 students on statistics, including algebraic principles, formulas, geometric principle
- Provided 2-hour lecture and 2-hour lab exercises per week for 5-10 students on database management, GIS mapping
- Developed students' proficiency in ArcGIS Pro, establishing a solid foundation in geospatial analysis, cartographic design
- Conducted training and support for 8 lab exercises on learning ArcGIS Pro, ArcGIS Online, and Web application
- Contributed to customizing the course materials and exercise design to fit trendy GIS technology

Research Assistant (Binghamton University) **May 2017 – May 2019**
Integration of Earth Observation and in Situ Data for Analyzing Lake Level Changes

- Gathered 10k+ lake-level data using web crawling to ensure lake data quality and metadata standards for research
- Utilized cloud computing (Google Earth Engine) to compute lake area
- Developed a suite of ArcGIS add-ins for raster analysis (NetCDF) using R and the R-ArcGIS Bridge

PUBLICATIONS

Wu, Y., Yang, Y., & Yuan, M. (2024). Location Analytics of Routine Occurrences (LARO) to Identify Locations with Regularly Occurring Events with a Case Study on Traffic Accidents. *Information*, 15(2), 107.

Yang, Y., **Wu, Y.**, & Yuan, M. (2023). Quantifying the effects of the local environment on in-person social events. International Journal of Geo-Information (Under review)

Wu, Y., Yang, Y., & Yuan, M. (2023). Understanding the role of geographical environments in emergency dispatches with GPS trajectories. *Abstracts of the ICA*, 6, 276.

Wu, Y., & Yuan, M. (2021). Where and why there: location analytics of routine occurrences (LARO) with a case study on traffic accidents. *Abstracts of the ICA*, 3, 318.

CONFERENCE PROCEEDINGS

Wu, Y., Yang, Y., Yuan, M. Analyze emergency-vehicle dispatches in Dallas, Texas, USA, In AutoCarto 2022 Proceedings.

Yang, Y., **Wu, Y.**, Yuan, M. Quantifying the impacts of social infrastructure on human networks, In *AutoCarto 2022 Proceedings.*

AWARDS

2023 Second Place in Graduate Paper Competition, SWAAG conference
International Cartographic Association Scholarship
Travel award from USNC for ICA with NSF funding to attend the ICC2023
Betty & Gifford Johnson Travel Award, UTD

2022 Graduate student participants of the Grad WINGS Workshop, UCGIS
International Cartographic Association Scholarship
Second Place, Student Lightning Talk Award, UCGIS Symposium
Third Place in GIS Day 2022 Awarded by Geospatial Information Sciences Program, UTD
Travel award from UCGIS to attend the UCGIS Symposium
The University of Texas at Dallas 2022 Three Minute Thesis (3MT) Competition, Finalist
Honorable mentions, GI Science & Systems Student Honors Paper Competition session, AAG

2021 International Cartographic Association Scholarship
Travel award from USNC for ICA with NSF funding to attend the ICC2021
Pioneers Student Research Fund, Geospatial Information Sciences Program, UTD
PhD Research Small Grants Awarded by the Office of Graduate Education, UTD
First Place in GIS Day 2021 Awarded by Geospatial Information Sciences Program, UTD

2019 First Place in GIS Day 2019 Awarded by Geospatial Information Sciences Program, UTD
Pioneers Student Research Fund, Geospatial Information Sciences Program, UTD
First Place in GIS Day 2019 Awarded by the Geography Department at Binghamton University

2015 Outstanding Prize in GeoDesign at Esri GIS Software Development Contest

COURSE TAKEN

- Remote Sensing Fundamentals
- Geographic Information Systems Fundamentals
- GIS Theories, Models, and Issues
- Spatial Statistics
- Machine Learning in GIS
- Regression and Multivariate Analysis
- Spatial Data Science
- GIS Pattern Analysis
- Internet Mapping and Information Processing
- Advanced Geographic Information Systems
- Advanced GIS Data Analysis
- Descriptive and Inferential Statistics
- Advanced GIS Programming
- GIS Research Design
- Grant Writing and Management
- Python Programming for Social Science

PROFESSIONAL MEMBERSHIPS

2023 – Present	Esri Young Professional Network
2017 – Present	American Association of Geographers (AAG)
2017 – Present	Cartography and Geographic Information Society (CaGIS)