XUANTONG (TONY) WANG

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CURRENT APPOINTMENT

Teaching Assistant Professor, CS+GGIS Program Advisor, Department of Geography and Geographic Information Science, University of Illinois at Urbana-Champaign

EDUCATION

PhD **University of Denver, Geography**   2016 – 2020
Dissertation: "*Using Multi-Source Data to Assess the Dynamics of Socioeconomic Development in Africa*"
Advisor: Dr. Paul Sutton

MS **University of Pennsylvania, Master of Environmental Studies**   2014 – 2016

BS **UC Berkeley, Environmental Economics and Policy**   2011 – 2014

PROFESSIONAL EXPERIENCE

08/ 2020 – Present   **Teaching Assistant Professor**

Department of Geography and Geographic Information Science,

University of Illinois at Urbana-Champaign

10/ 2019 – 05/ 2020   **Software Developer**

Office of Innovative Mobility

Colorado Department of Transportation

09/ 2019 – 05/ 2020   **Lecturer**

Department of Geography and Environmental Sciences,

University of Colorado Denver

06/2017 – 08/2017   **GIS Analyst**

The Frederick S. Pardee Center for the Study & the QED Group

Kampala, Uganda

Spring 2017, 2018,   **Co-Instructor**

& 2019   Department of Geography & the Environment,

University of Denver

09/ 2016 – 05/ 2020   **Graduate Teaching and Research Assistant**

Department of Geography & the Environment,

University of Denver

HONORS AND AWARDS

Dr. Robert D.Rudd Memorial Award (2019)

AAG Cyberinfrastructure Specialty Group Robert Raskin Competition Travel Award (2019)

Doctoral Fellowship of Inclusive Engagement (2017)

Dean's Scholarship (2016)

American Association of Geographers Poster Award (2016)

UPenn Student of the Year - Department of Earth and Environmental Science (2016)

Singapore International Scholarship (2006-2010)

CERTIFICATIONS

University of Denver Online Teaching Certificate

Passed Charted Financial Analyst Level 1 in 2016

Microsoft Data Science Certificate

Professional Energy Manager Certificate

40-Hour Hazardous Waste Operations and Emergency Response Training

PUBLICATIONS

Book Chapter

Wang, X*., Li, J., & Zhang, T. (2020). Building a GPU-Enabled Analytical Workflow for Maritime Pattern Discovery Using Automatic Identification System Data. In *High Performance Computing for Geospatial Applications* (pp. 227-248). Springer.

Journal Papers

Li, J*., **Wang, X**., He, Z., Zhang, T. (Accepted). A Personalized Activity-based Spatiotemporal Risk Mapping Approach to COVID-19 Pandemic. *Cartography and Geographic Information Science*.

Li, J*., **Wang, X**., & Zhang, T. (2021). Sequence-based centrality measures in maritime transportation networks. *IET Intelligent Transport Systems*.

Qi, B., **Wang, X***., & Sutton, P. (2021). Can Nighttime Satellite Imagery Inform Our Understanding of Education Inequality?. *Remote Sensing*, 13(5), 843.

Wang, X*., Rafa, M., Moyer, J. D., Li, J., Scheer, J., & Sutton, P. (2019). Estimation and Mapping of Sub-National GDP in Uganda Using NPP-VIIRS Imagery. *Remote Sensing*, *11*(2), 163.

Wang, X., Li, J*., & Zhang, T. (2019). A Machine-Learning Model for Zonal Ship Flow Prediction Using AIS Data: A Case Study in the South Atlantic States Region. *Journal of Marine Science and Engineering*, *7*(12), 463.

Wang, X*., Sutton, P. C., & Qi, B. (2019). Global Mapping of GDP at 1 km^2 Using VIIRS Nighttime Satellite Imagery. *ISPRS International Journal of Geo-Information*, *8*(12), 580.

Li, J*., **Wang, X.**, Zhang, T., & Xu, Y. (2018). Efficient Parallel K Best Connected Trajectory (K-BCT) Query with GPGPU: A Combinatorial Min-Distance and Progressive Bounding Box Approach. *ISPRS International Journal of Geo-Information*, *7*(7), 239.

Journal Papers in Review

Costanza, R., Anderson, S., Sutton, P., Mulder, K., Mulder, O., Kubiszewski, I., **Wang, X.**, Xin, L., Pérez-Maqueo, O., Martinez., M., Jarvis. D., Dee, G. (2021). The global value of coastal wetlands for storm protection. *Nature Sustainability*.

Policy Briefs and Reports

Rafa, M., Moyer, J. D., **Wang, X.**, & Sutton, P. (2018). Using Nightlights for Poverty Analysis in Uganda. Invited Policy Brief for USAID. The Frederick S. Pardee Center for International Futures, University of Denver, Denver, CO.

Rafa, M., Moyer, J. D., **Wang, X.**, & Sutton, P. (2017). Estimating district GDP in Uganda. Invited Research Paper for USAID. The Frederick S. Pardee Center for International Futures, University of Denver, Denver, CO.

FUNDING

Microsoft Azure "AI for Earth" Grant (2018). $20,000 Azure Credit.

Microsoft Azure "AI for Earth" Grant (2017). $20,000 Azure Credit.

University of Pennsylvania Walker's Fund for Field Research (2015). $5,000

TEACHING EXPERIENCE

Position	Title	University
Teaching Assistant Professor	Spatial Problem Solving (GEOG 380)	UIUC

Teaching Assistant Professor	High Performance Geospatial Computing (GEOG 479/507)	UIUC
Teaching Assistant Professor	GeoAI and Machine Learning (GEOG 527)	UIUC
Teaching Assistant Professor	Geospatial Data Science for Knowledge Discovery in Illinois (GEOG 224)	UIUC
Lecturer	Geospatial Big Data	UC Denver
Lecturer	Cartography and Computer Mapping	UC Denver
Lecturer	Intro to GIS	UC Denver
Co-Instructor	Professional Development	DU

CONFERENCE AND PRESENTATION

American Geophysical Union Conference (2019)
Poster presentation: A grid-based hierarchical decomposition strategy for memory-efficient LiDAR processing with GPUs
American Association of Geographers Annual Conference (2019)
Paper presentation: A spatiotemporal sequence mining approach for ship trajectory data
Paper presentation (co-presenter): Assessing Learning Outcomes in Geography and Environmental Science at the University of Denver
American Association of Geographers Annual Conference (2018)
Paper presentation: VisAIS: A multidimensional visualization client to support analysis of AIS information
Paper presentation (co-presenter): Using nighttime imagery to estimate Gross Domestic Product at sub-national levels in Africa
DURAP (2018)
Poster-presentation: Using Multi-Source geospatial data to assess the socioeconomic development in Africa
American Association of Geographers Annual Conference (2017)
Paper presentation: An analysis of global migratory birds' distribution
American Association of Geographers Regional Conference (2016)
Poster presentation: Conservation of Sui Minority Language in southern China