

EDUCATION

University of Colorado, Boulder

Doctor of Philosophy, Geography

Boulder, CO

Expected May 2025

University of Southern California

Master of Science, Spatial Data Science. GPA: 3.85/4.0

Los Angeles, CA

May 2021

East China Normal University

Bachelor of Science, Geographic Science. GPA: 3.62/4.0

Shanghai, China

June 2019

EXPERIENCE

University of Colorado, Boulder

Student – Department of Geography

Boulder, CO

August 2021 to Present

Teaching Assistant: GEOG 4043 Advanced Geovisualization and Web Mapping

August 2021 to Present

- Prepare laboratory instructions with the professor and grading students' assignments.
- Lead weekly laboratory sessions on geovisualization to a class of ~25 students

University of Southern California

Student – Spatial Sciences Institute and Viterbi School of Engineering

Los Angeles, CA

August 2019 to May 2021

Competition: AAG 2020 Robert Raskin Student Competition

Oct 2019 to Apr 2020

- Regional Environmental cognition: the spatial-temporal semantic analysis of different responses about environmental topics on social media

Team Project:

Apr 2020 to July 2020

COVID-19 Data Mining, Spatial Analysis & Virtual Dashboard for International Medical Corps

- Conducted exploratory spatial analysis and modeling of correlations between different variables influencing the spread of COVID-19, including time series analysis

ACM SIGSPATIAL2020 COVID-2020 Workshop: Sensitivity Analysis for COVID-19 Epidemiological Models within a Geographic Framework

August 2020 to Nov 2020

- Conducted Sobol' Sensitivity Analysis for CHIME model and visualize the results with surface plots and tornado plots

Second Independent Reviewer: Evidence of Susceptibility to Autism Risks Associated with Early Life Ambient Air pollution: A Systematic Review (coming)

Oct 2020 to Present

- Extracted key information and result from a series of related publications and accessed the quality of the results. Participated in editing work of the draft.

Research: Sensitivity Analysis for COVID-19 Hospital Resource Allocation

Nov 2020 to Present

- Extended previous research to nationwide and improved spatial resolution to the county level.
- Extended sensitivity parameters with more hospital resources allocation variables and tested more advanced models considering asymptomatic patients, such as CHIME, COVID-19 Surge, IHME, and SIIRC.

East China Normal University

Student – Department of Geography

Shanghai, China

Sep 2015 to June 2019

Project: Critical Condition for Inception of Suspended Sediments

- Analyzed bed deformation and sediment transport from exchange among various forms of sediment load

Project: A Study to the Influence of the Xin'anjiang Reservoir on Surroundings

- Compared the changes in environmental factors before and after the construction of the reservoir, focusing on species to find ways to minimize the influence of unfavorable environmental impacts

Leader: Project: Simulation of Storm-water Control Effect in ECNU Campus Based on SWMM

- Adopted Storm Water Management Model (SWMM) to establish the rain flood model and designed the Low Impact Development (LID) measures for ECNU campus
- Collected the data of production flow and peak flow and explored how the LID practices work on ECNU campus storm-water management compared to traditional design scheme and design of LID system

Project: Calculation and Analysis of Agriculture Water Footprint: A Case Study of Chongming District in Shanghai

- Evaluated the water resources status in Shanghai from 2004 to 2017 based on the theory of virtual water and water footprint
- Compared the water footprint time change and spatial distribution of Shanghai and used LMDI model to analyze the contribution of the main driving forces: the population effect, the efficiency effect and economic effect

ADDITIONAL INFORMATION

Skills: Anaconda, Jupyter Notebooks, MS Visual Studio, Google Colab, ESRI ArcGIS Desktop, Pro and Online, Google Earth, PostgreSQL, Spatial Cloud Computing and AWS, Apache Tika, DCGAN, D3 Visualization, Remote sensing and big data processing, Spatial data mining and modeling, Git and GitHub, PySpark

Programming: Python, R, SQL, Java, Scala, Open Source Libraries and ArcGIS API for Python, HTML, CSS, JavaScript

Languages: English, Mandarin, Shanghainese

PUBLICATIONS

- **Zhongying Wang** and Orhun Aydin. 2020. Sensitivity Analysis for COVID-19 Epidemiological Models within a Geographic Framework. In Proceedings of the 1st ACM SIGSPATIAL International Workshop on Modeling and Understanding the Spread of COVID-19 (COVID-19). Association for Computing Machinery, New York, NY, USA, 11–14. DOI:<https://doi.org/10.1145/3423459.3430755>
- Xin Yu, Md Mostafijur Rahman, **Zhongying Wang**, Sarah A. Carter, Joel Schwartz, Zhanghua Chen, Sandra P. Eckel, Jiu-Chiuan Chen, Anny H. Xiang, Rob S. McConnell. 2021. Evidence of Susceptibility to Autism Risks Associated with Early Life Ambient Air pollution: A Systematic Review. Accepted by: Environmental Research. (Coming)