

Anran Zheng

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EDUCATION

University of Pennsylvania

Philadelphia, PA

Master of Urban Spatial Analytics | Stuart Weitzman School of Design

May 2022 (Expected)

- **Relevant Coursework:** Statistics, Python, R, JavaScript, SQL, GIS, Remote Sensing, Machine Learning

Capital Normal University

Beijing, China

Bachelor of Science in GIS | College of Geospatial Information Science and Technology

Jun 2021

- **GPA:** 3.92/4, Rank 1/43 (Outstanding Graduate Award)

Northern Illinois University

Dekalb, IL

Bachelor of Science in Geography | Department of Geographic and Atmospheric Science

Aug 2021

- **GPA:** 3.95/4, Rank Top 5% (Dean's List for all semesters)

PUBLICATIONS

- **Zheng, A.;** Wang, T.; Li, X. Spatiotemporal Characteristics and Risk Factors of the COVID-19 Pandemic in New York State: Implication of Future Policies. ISPRS Int. J. Geo-Inf. 2021, 10, 627.
<https://doi.org/10.3390/ijgi10090627>

RESEARCH EXPERIENCE

PennPraxis

Aug 2021 – present

Design Fellow at University of Pennsylvania

- Established several prediction models, which can predict the future bikeshare trips, overdose distribution and house price based on the observed data with R and Python.
- Built a data pipeline and a web-based dashboard showing the real-time and historical COVID-19 situation in NYC to communicate the analysis and recommendations to local health department officials.
- Performed sentiment and spatial analysis of thousands of tweets from Twitter with Python to understand how people's attitude change towards COVID-19 vaccine.

Digital Terrain Analysis

Jul 2021 – Aug 2021

Summer Research Assistant at Capital Normal University

- Performed digital terrain data collection, documentation, and analysis in QGIS and GRASS.
- Completed professional laboratory reports, including the least cost path, hydrological analysis, point cloud classification, etc.

Spatiotemporal transmission pattern of COVID-19 in New York

Sep 2020 – Jun 2021

Leader of Capital Normal University Geography Talent Development Program

- Conducted spatial autocorrelation and spatiotemporal scanning analysis to detect the COVID-19 clusters.
- Analyzed the factors influencing the COVID-19 spreading with Geodetector method.

Automatic lake extraction and classification in Tibet based on DEM data

Jan 2020 – May 2020

Research Assistant in the Tibet Institute of Chinese Academy of Science

- Designed and implemented a program which can extract and classify the lakes in Tibet based on the DEM data with Arcpy and Python.
- Presented as a research poster on the Undergraduate Research Day and Artistry Event in NIU.

INTERNSHIPS

Piesat Information Technology Co., Ltd

Mar 2021 – Jun 2021

Remote Sensing Engineer

Beijing, China

- Participated in the national ecology protection project. Tested the Java, C++ and Python algorithm of PIE-Engine, a remote sensing programming package.
- Processed the remote sensing data with ERDAS and ArcGIS, and completed writing the user's manual.

Shenzhen Visiondom ESG Co., Ltd

Nov 2020 – Jan 2021

GIS and Statistics Analyst

Beijing, China

- Established a water pollution simulation model of Yangtze River Delta region with ENVI and SPSS.
- Modelled the distribution pattern of urban residents of the Pearl Delta region with GIS and statistics methods.

Chinese Academy of Surveying and Mapping

Jul 2020 – Oct 2020

GIS and Statistics Analyst

Beijing, China

- Conducted spatial and statistics analysis on the land-use changing pattern of Hefei city during 2017-2019 in ArcGIS and the Pivot table in Excel.
- Vectorized, checked and repaired the topology errors from mangrove polygons of four provinces in ArcGIS.
- Analyzed the land use changing patterns of Yeyahu National Wetland Park within 8 years with SPSS, ArcGIS, ERDAS and advanced functions in Excel.
- Completed comprehensive research reports on the data analysis of Hefei City and Yeyahu.

NIU Geovisual Mapping Laboratory

Jan 2020 – May 2020

Cartographer

Dekalb, IL

- Established some thematic and animation maps of NIU campus, and a 3D fly-through animation movie with ArcGIS Pro and posted as a story map online for celebrating the 125th anniversary of NIU.

TEACHING EXPERIENCES

Note-taker | Student Disabilities Services, University of Pennsylvania

Aug 2021 – present

- Assisted visual and hearing-impaired students take comprehensive class notes of four courses manually, and uploaded them on the Tutoring Center in timely manner.

Teaching Assistant | College of GIST, Capital Normal University

Sep 2020 – Jul 2021

- Taught Python and ArcGIS to sophomore students and tutored them to complete the assignments.
- Helped instructor prepare the teaching materials, designed the lab and graded assignments and exams.

SKILLS

- **Applications:** Expert in ArcGIS, QGIS and ArcGIS Pro; proficient in ENVI, ERDAS, GeoDa, and SPSS.
- **Programming:** Proficient in Python (e.g. scikit-learn, GeoPandas, numPy, carto, leaflet), R (e.g. dplyr, tidyverse, leaflet, ggplot2, tidycensus), Arcpy and SQL; familiar with HTML, CSS, JavaScript, C and C++.
- **Language Skills:** Mandarin (Native); English (Proficient).
- **Others:** Strong research, problem-solving and analytical skills; excellent time management, presentation and communications skills; good academic writing and leadership skills.