

Jing Huang

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EDUCATION

Wuhan University

Sept 2022 - June 2025

MS in Cartography and Geographic Information System

- GPA: 3.78/4.0 Ranked 1/38
- Core courses: Spatial-Temporal Big Data Analytics, Geocomputation, Theory and Method of Geographic Information Science, Smart City, Theories and Methods of New Media Map, Remote sensing engineering, Remote Sensing for Resource & Environment, Digital Earth Surface Simulation

Sichuan Agricultural University

Sept 2018 - June 2022

BS in Geographic Information Science

- GPA: 4.19/5.0 Ranked 1/42
- Core courses: Quantitative Geography, GIS software application, C language programming, VC # programming, Remote sensing foundation and application, Remote Sensing Digital Image Processing, Introduction to Spatial Database, Geological basis, Integrated Physical Geography

RESEARCH INTERESTS

Urban Computing and Social Sensing, GIScience, Human-centered Geospatial computing, GeoAI, Urban Visual Intelligence.

PUBLICATIONS

Huang, J., Fei, T., Kang, Y., Li, J., Liu, Z., & Wu, G. (2024). Estimating urban noise along road network from street view imagery. *International Journal of Geographical Information Science*, 38(1), 128-155.

DOI: [10.1080/13658816.2023.2274475](https://doi.org/10.1080/13658816.2023.2274475)

Duan, J., Huang, J., Chen, Y., & Du, K. (2021, February). Research on eco-geological environment carrying capacity based on GIS technology. In *IOP Conference Series: Earth and Environmental Science* (Vol. 651, No. 4, p. 042003). IOP Publishing.

DOI: [10.1088/1755-1315/651/4/042003](https://doi.org/10.1088/1755-1315/651/4/042003)

CONFERENCE PRESENTATION

The 13th Forum on Spatially Integrated Humanities and Social Science

Beijing, China

"Estimating road traffic noise from street scenes at the city scale: a data-driven approach", *presentation*.

RESEARCH EXPERIENCE

Research on Spatio-Temporal Patterns of Road Traffic Noise Using Graph Convolutional Networks and street scenes

Jan 2024 - Present

Supervisor: Prof. Teng Fei

- Integrated traffic-related geographic information to construct weighted traffic network-based graph.
- Extracted element-level and scene-level features from street view images for node embedding learning.
- Implemented GraphSAGE using the DGL library to predict temporal patterns of road traffic noise.
- Currently working on a paper for publication.

Research on Traffic Noise Estimation along the Road using Street View Imagery

May 2022 - Oct 2023

Supervisor: Prof. Teng Fei, Dr. Yuhao Kang

- Utilized Raspberry Pi Zero to integrate Noise sensor and GPS module for in-situ data acquisition.
- Trained a model for estimating road traffic noise from street view imagery using ResNet-34 and Random Forest Regression algorithms.
- Conducted interpretability analysis by using Grad-CAM technique to identify visual features associated with road traffic noise.

Temporal and spatial variation of urban heat island effect and its influencing factors in different climate regions

Jan 2021 - May 2022

Supervisor: Prof. Qiquan Li

- Integrated DMSP-OLS and NPP-VIIRS for extracting the urban built-up area boundary based on the dynamic threshold dichotomy method.
- Constructed equal-area buffer to estimate urban heat island intensity (UHII) based on MOD11A2.
- Analyzed the diurnal and seasonal variation characteristics of UHII in different climate zones, and performed factor analysis considering geographical factors.

Research on the applicability of impervious surface index in high-resolution remote sensing images

July 2021 - Apr 2022

Core member

- Utilized Gaofen-2 satellite images to extract impervious surface using BCI, CBI, GBISI, PII, and RRI indices.
- Analyzed the optimal thresholds for each index using Otsu's method, natural breaks, triangle threshold segmentation, and Riddler-Calvard segmentation.
- Developed the "voting method" algorithm for pixel-by-pixel analysis and impervious surfaces extraction.

Research on Eco-geological Environment Carrying Capacity Based on GIS Technology

Sept 2020 - Jan 2021

Core member

- Reviewed theoretical and practical studies on environmental carrying capacity, including quantitative models, measurement methods, and evaluation index systems.
- Collected and computed indicators for land use projects via remote sensing and statistical data.
- Conducted PCA analysis and developed an environmental performance evaluation system using the Pressure-State-Response framework.

PROJECT EXPERIENCE

MODIS Land Products Quality Assurance System

Jan 2021 - May 2021

Obtained a software copyright as the first author. Supervisor: Prof. Hao Li

- Developed a program for Quality Assurance/ Quality Control decoding to interpret binary strings, extract bit words for different bit fields, and map these to the associated quality attributes, enabling users to access specific quality layers such as sensor status, cloud cover, and aerosol quantity.
- Utilizing PyQt5 to develop GUI that supports the extraction and visualization of QA/QC layers for over 30 types of MODIS land products.

INTERNSHIP EXPERIENCE

Irrigation Engineering and Land Consolidation Planning in Chamdo, Tibet

Sept 2021 - Feb 2022

POWERCHINA Chengdu Engineering Corporation Limited, data analyst

- Employed ArcPy to provide background information for the planning of irrigation projects in Chamdo, focusing on water resource assessment, and the analysis of agricultural irrigation supply-demand balance.
- Created maps by ArcGIS for the "Water Resource Assessment and Supply-Demand Forecast" chapter.

TECHNOLOGIES

Skill: Python, C, C#, SQL, JavaScript

Software: ArcGIS, Envi, SPSS, Origin, MySQL, AutoCAD

Language: Chinese (native), English