

Pengyu Chen

📍 Columbia, SC, USA ✉ pengyuc@email.sc.edu 🔗 pengyu-gis.github.io 🌐 Pengyu-gis

About Me

Master's student in Geography at the University of South Carolina with a strong foundation in GIScience, remote sensing, and deep learning. My research interests center on geospatial computing, deep learning, and statistical analysis to investigate spatial behavior.

Education

- M.S. University of South Carolina**, Geography Sept 2024 – May 2026
 • GPA: 3.8+/4.0 || Advisor: Dr. Sicheng Wang || TA scholarship
- B.S. Wuhan University of Technology**, Geographic Information Science Sept 2020 – June 2024
 • GPA: 3.5/4.0 || Advisor: Dr. Wei Cui || Chair of GIS Association

Publications

- Cross-Modal Urban Sensing: Evaluating Sound-Vision Alignment Across Street-Level and Aerial Imagery** June 2025
 Pengyu Chen, Xiao Huang, Fei Teng, Sicheng Wang
<https://doi.org/10.48550/arXiv.2506.03388> 🔗
- A GAN-Enhanced Deep Learning Framework for Rooftop Detection from Historical Aerial Imagery** Mar 2025
 Pengyu Chen, Sicheng Wang, Chengyang Wang, Senrong Wang. etc
<https://doi.org/10.48550/arXiv.2503.23200> 🔗
- Intelligent Bear Prevention System Based on Computer Vision-An Approach to Reduce Human-Bear Conflicts in the Tibetan Plateau Area, China** Mar 2025
 Pengyu Chen, Fei Teng, Yunyan Du, Jiawei Yi, Yi Li, John A. Kupfer
<https://doi.org/10.48550/arXiv.2503.23178> 🔗
- Socio-demographic inequalities in the impacts of extreme temperatures on population mobility** June 2023
 Xinyue Gu, Pengyu Chen, Chao Fan
<https://doi.org/10.1016/j.jtrangeo.2023.103755> 🔗
- Multi-Agent Path Optimization Based on STA* Algorithm** Nov 2022
 Ruixiang Cheng, Xinyu Wang, Pengyu Chen, Jiaxin Liu
- Impacts of Ethiopia Dam on Vegetation and Water and Ecological Countermeasures** Nov 2022
 Pengyu Chen, Tengyuan Liang, Zibin Wu
<https://doi.org/10.1088/1755-1315/1011/1/012044> 🔗

Ongoing Projects

- Spatial Modeling of Fatal Traffic Accidents in South Carolina Using Poisson Point Process**
 co-first author

Research Experience

- Wuhan University**, Visiting Student & Research Assistant Wuhan, China
July 2023 – July 2024

- Trained YOLO-based object detection algorithm and deployed model compression to the K210 microcontroller.
- Application: Detecting Tibetan brown bears and using K210 to drive water pumps and bear spray.
- Supervisor: Prof. Teng Fei

Harvard University Spatial Data Lab, Research Intern

- Spatial Data Laboratory (SDL) Internship Program
- Geographic Big Data Analytics, Spatio-Temporal Data Mining
- Supervisor: Dr. Yuhang Pan, Peking University

Remote
May 2024 – Oct 2024

Clemson University, Research Intern

- Data processing, data cleaning, and curve generation using MATLAB and Python.
- Published paper in the Journal of Transport Geography.
- Supervisor: Dr. Chao Fan

Remote
Sept 2022 – Jan 2023

Teaching Experience

Landform Geography (GEOG 201), Lab Instructor

- supervised by Dr. John A. Kupfer, Dr. Jean Taylor Ellis
- Instruct lab sessions, provide guidance, and grade assignments.

Columbia, SC, USA
Aug 2024 – present

Professional Experience

Xuzhou Construction Machinery Group (XCMG) - Road Machinery Division, Algorithm Intern

- Developed digital roads using Leica software and presented results with ArcGIS.
- Implemented and modified curve fitting algorithms for practical applications.
- Supervisor: Bowen Wu

Xuzhou, China
Jan 2022 – Mar 2022

Leading Experience

GISinfo (Subprojects under GISphere), Development Team Leader, Members of the Council

- Developed backend using Django framework with Django REST Framework APIs, connected to MySQL database.
- Built front-end with Vue, managed user demand pool, and led backend development.
- website: <https://gisphere.info/>

Wuhan, China
Feb 2022 – present

Scholarship & Awards

Graduate Instructor Assistant Scholarship (start from 2024 fall)

AAG Graduate student Travel grant

MathorCup Modeling Competition, Third Prize

2022 Huazhong Cup Mathematical Modeling Competition, Second Prize

Technologies

Programming Languages: Python, Java, C

Software: MySQL, ArcGIS, QGIS, MATLAB

Languages: English (TOEFL iBT 102), Chinese (First language)