

Pengyu Chen

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

About Me

A highly motivated and passionate individual with a strong background in GIScience and a deep interest in deep learning and geospatial computing. Experienced in research and team leadership. Excited about exploring intersections between GIScience, Computer Science, and statistical analysis with a focus on leveraging human-related computing for meaningful research.

Education

- M.S. University of South Carolina**, Geography Sept 2024 – May 2026
 • TA scholarship (Lab Instructor)
- B.S. Wuhan University of Technology**, Geographic Information Science Sept 2020 – June 2024

Publications

- A GAN-Enhanced Deep Learning Framework for Rooftop Detection from Historical Aerial Imagery** Mar 2025
 Pengyu Chen, Sicheng Wang, Chengyang Wang, Sicheng Wang, Baoling Huang, Ling Huang, Zhizhao Zang
<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, Yuxuan Du, Jingyi Yi, Yuhan 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
[10.1016/j.jtrangeo.2023.103755](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
[10.1088/1755-1315/1011/1/012044](https://doi.org/10.1088/1755-1315/1011/1/012044) 🔗

Ongoing Projects

Sound, Space, and Sentiment—Understanding the Association of Urban Soundscapes and Perceptions
First author | Abstract submitted to AAG conference

Research Experience

- Harvard University Spatial Data Lab**, Research Intern remote
 May 2024 – Oct 2024
 • Spatial Data Laboratory (SDL) Internship Program
 • Geographic Big Data Analytics, Spatio-Temporal Data Mining
 • Supervisor: Dr. Yuhang Pan, Peking University
- 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.
- Currently have a Chinese core journal in submission.
- Supervisor: Prof. Teng Fei

Wuhan University of Technology, Research Assistant

- Focus on Image Segmentation, Knowledge Map, Remote Sensing.
- Supervisor: Prof. Wei Cui

Wuhan, China
June 2023 – June 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

- Instruct lab sessions, provide guidance, and grade assignments.

Columbia, SC, USA
Aug 2023 – present

Professional Experience

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
July 2022 – Aug 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.
- Supervisors: Dr. Yuhao Kang, Dr. Shan Ye
- website: <https://gisphere.info/>

Wuhan, China
Feb 2022 – present

GIS Association of Wuhan University of Technology, Chair of the Association

Wuhan, China
2022 – 2023

Awards

2021 Huazhong Cup Mathematical Modeling Competition, Third Prize

MathorCup Modeling Competition, Third Prize

2022 Huazhong Cup Mathematical Modeling Competition, Second Prize

Technologies

Programming Languages: Python, C#, Java, C

Software: MySQL, Unity, Unreal Engine, ArcGIS, QGIS, MATLAB

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