Pengyu CHEN

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ABOUT ME

A highly motivated and passionate individual with a strong academic background in GIScience and a deep interest in Artificial Intelligence. Has experience in research, volunteering and leadership of a team. Both scientific research ability and computer programming ability have been well cultivated.

EDUCATION

Wuhan University of Technology

Geographic Information Science *Undergraduate , GPA： 3.5/4* *2020 - 2024*

INTERNSHIP & RESEARCH EXPERIENCES

- **Visiting student & Research Assistant, Wuhan University** *July 2023 - Present*
  - ✧ Training the YOLO-based object detection algorithm. Deploy the model compression to the K210 microcontroller.
  - ✧ Landed application: the model detects Tibetan brown bears, the K210 drives the water pump, and the bear spray is used to drive away the Tibetan brown bears.
  - ✧ Currently have a Chinese core journal in submission.
  - ✧ Supervisor: Prof. Teng Fei
- **Development team leader, GISinfo (Subprojects under GISphere)** *February 2022 - Present*
  - ✧ Use the Django framework of Python to write login and registration APIs, adopt the interface format of Django REST Framework, and connect to the MySQL database of the project team. Use Vue to build the front-end.
  - ✧ Responsible for the management of the user demand pool, and the advancement of the back-end related work.
  - ✧ Website: gisphere.info
  - ✧ Supervisors: Dr. Yuhao Kang, Dr. Shan Ye
- **Research Assistant, Wuhan University of Technology** *September 2023 – Present*
  - ✧ Data set segmentation, Knowledge Map, Remote Sensing
  - ✧ Supervisor: Prof. Wei Cui
- **ISUI (Urban Informatics) Website Operations Volunteer** *February 2023 - July 2023*
  - ✧ Backend built with PHP; frontend built with VUE. Hosting site based on WordPress.
  - ✧ Built an automated Email delivery system; Built a payment and receipt system.
  - ✧ Website: isocui.org
  - ✧ Supervisors: Dr. Rui Cao, Prof. Xintao Liu
- **Research Intern, Clemson University** *September 2022 - January 2023*
  - ✧ Data processing related work: perform appropriate Data Clean on the data in literature, GitHub or other websites, use MATLAB to perform corresponding calculations, and use its plug-ins to generate fitting curves.
  - ✧ Use Python for data processing, draw the relationship curve between population flux and distance, and the relationship curve between population flux and social indicators.

- ✧ Write the thesis and make thematic maps. Currently, Paper published in the Journal of Transport Geography
- ✧ Supervisor: Dr. Chao Fan

- **Algorithm Intern, XCMG Road Machinery Division** *July 2022 - February 2022*
  - ✧ Use the software provided by Leica to make digital roads, and use ArcGIS to present the results on map.
  - ✧ For actual operation, use the software 3D-office to make horizontal alignment, organize curve fitting algorithms, and make appropriate modifications to related algorithms on the basis of reality.
  - ✧ Supervisor: Bowen WU
- **Independent Innovation Project, Wuhan University of Technology** *July 2022 - October 2023*
  - ✧ Related work is to use CNN to identify thermal power plants, and use neural network model to predict carbon emissions. It is currently in the research stage.
  - ✧ Supervisor: Prof. Wei Cui

AWARDS

- **2021 Huazhong Cup Mathematical Modeling Competition**
  Third Prize, Provincial
- **MathorCup Modeling Competition**
  Third Prize, National
- **2022 Huazhong Cup Mathematical Modeling Competition**
  Second Prize, Provincial
- **Wuhan University of Technology Freshman Mathematical Modeling Contest**
  Third Price, School Level

ASSOCIATION WORK

- **President of GIS Association of Wuhan University of Technology**
  June 2022 - June 2023 Supervisor: Dr. Ming Zhang
- **Director of Technology of GIS Association of Wuhan University of Technology**
  June 2021 - June 2022 Supervisor: Dr. Ming Zhang

PUBLICATION

- Xinyue Gu, **Pengyu Chen**, Chao Fan, Socio-demographic inequalities in the impacts of extreme temperatures on population mobility, Journal of Transport Geography
  DOI: 10.1016/j.jtrangeo.2023.103755
- Ruixiang Cheng, Xinyu Wang, **Pengyu Chen**, Jiaxin Liu. Multi-Agent Path Optimization Based on STA* Algorithm. Conference: ICITEE 2022: 5th International Conference on Information Technologies and Electrical Engineering
- **Pengyu Chen**, Tengyuan Liang, Zibin Wu. Impacts of Ethiopia Dam on Vegetation and Water and Ecological Countermeasures. IOP Conference Series Earth and Environmental Science.
  DOI 10.1088/1755-1315/1011/1/012044

ADDITION

- Programming languages: Python; C# (mainly used for Unity scripts); JAVA; C++
- Software : MySQL; Unity; Unreal Engine; ArcGIS; QGIS; MATLAB
- Languages: English (**TOEFL iBT: 102**), Chinese