

YUANKUN WANG

🏠 Wuhan University, Wuhan, Hubei, China

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🌐 <https://kittywyk.github.io/>

EDUCATION

Wuhan University, China

Sept. 2022 - Present

State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing

M.E. in Photogrammetry and Remote Sensing (Postgraduate Recommendation)

GPA: 3.67/4.00 (91.24/100)

China University of Geosciences (Wuhan), China

Sept. 2018 - Jun. 2022

School of Geography and Information Engineering

B.E. in Remote Sensing Science and Technology (Outstanding Graduate at School Level)

GPA: 3.95/5.00 Rank: 3/60

Major Courses: Probability and Statistics (96), Linear Algebra (93), Data Structure (95), Remote Sensing Image Processing (95), Digital Signal Processing (94), 3D GIS (100), Digital Photogrammetry (95)

RESEARCH INTEREST

GeoAI

Machine Learning, Deep Learning

RESEARCH ACHIEVEMENT

Wang, Y., Shao, Z.*, et al. TripleA: An Unsupervised Domain Adaptation Framework for Nighttime VRU Detection. *IEEE Transactions on Intelligent Transportation Systems*. (Revision Submitted, ID: T-ITS-24-04-1407)

Ding, Y., Shao, Z.*, **Wang, Y.**, et al. SARBA-Net: A Boundary Awareness Network for Impervious Surface Extraction of SAR Images. *Pattern Recognition*. (Under Review)

RESEARCH EXPERIENCE

Nighttime Vulnerable Road User (VRU) Detection

Sept. 2022 - Ongoing

Head of Student, R&D and Application of Key Technologies for Intelligent Analysis of Video Big Data in Intelligent Transportation
Wuhan University

- Proposed an unsupervised domain adaptation framework for nighttime VRU detection using only daytime annotations, reducing the cost of manually labeling challenging nighttime data
- Designed an illumination difference-aware denoising network to suppress noise that is coupled with illumination in nighttime images, the network can be trained in a self-supervised manner
- Authored a paper manuscript submitted to *IEEE Transactions on Intelligent Transportation Systems*

Road Damage Detection and Physical Properties Estimation

May 2023 - Ongoing

Head of Student, Hubei Province Key R&D Project
Wuhan University

- Constructed a road damage dataset containing the physical properties of road damage
- Enhanced the YOLOv5 architecture by integrating additional regression heads to predict the physical properties of detected road damage
- Developed an integral transform function (CDT) to address the long-tailed distribution problem in regression variables

Highway Asset Inspection Using Panoramic Imagery

Jan. 2023 - Ongoing

Researcher, Shanxi Provincial Science and Technology Major Special Project
Wuhan University

- Conducted semi-automatic annotation of highway traffic signage, resulting in a highway signage dataset
- Developed a detection model for highway traffic signage

- Mapped and analyzed street network patterns across 1,321 built-up areas in China using orientation entropy and rose diagrams
- Employed spatial autoregressive models to quantitatively understand the relationship between street network patterns and various landscape factors
- Implemented interactive visualization of analysis results using ArcGIS StoryMaps

- Developed a Siamese network to extract pre- and post-disaster building footprints and assess post-disaster building damage levels
- Integrated an attention mechanism to enhance feature representation within the network
- Employed a loss function to address the imbalanced distribution of damage classes

HONORS & FELLOWSHIPS

Scholarship

- Excellent Study Scholarship (top 10%), Wuhan University2023
- Graduate Study Scholarship, Wuhan University2023, 2022
- Self-Reliance Star Scholarship (top 5%), China University of Geosciences2020, 2019

Academic Competitions

- 3rd Prize in Huawei Cup the 20th China Post-Graduate Mathematical Contest in Modeling2023
- 1st Prize in Esri-Cup Chinese College Students GIS Software Development Contest2021
- 2nd Prize in National English Competition for College Students2020
- 2nd Prize in Translation and Interpreting Contest of Hubei Province2019

Honor

- Social Activist at University Level, Wuhan University2024
- Outstanding Youth League Member at School Level, Wuhan University2023
- Outstanding Graduate at School Level, China University of Geosciences2022
- Excellent Bachelor Thesis Award at School Level, China University of Geosciences2022
- Outstanding Individual at University Level, China University of Geosciences2020, 2019

LEADERSHIP & EXTRACURRICULAR

- Commissary in charge of publicity, master’s II class, Wuhan UniversitySept. 2022 - Present
- Volunteered at the second expert group meeting of the DSSP application projects of APSCOJun. 2024
- Volunteered at the 2024 China-Latin American and Caribbean States Space Cooperation ForumMay 2024
- Teaching Assistant for Smart City Course, Wuhan UniversityOct. 2023
- Volunteered at the 7th CISM Military World Games, accumulating 98 hours of volunteeringNov. 2019

SKILL SET

Languages	Mandarin (Native) English (IELTS: 7.0, with L: 7.0 R: 8.0 W: 7.0 S: 6.0)
Programming	Python MATLAB C/C++ R JavaScript HTML CSS L ^A T _E X
Software	ArcGIS ENVI SNAP Autodesk 3ds Max Qt ERDAS Imagine Adobe Photoshop
DL Framework	PyTorch TensorFlow
Certificate	Certificate of Intermediate Level of Computer and Software Technology Proficiency (Software Design Engineer) Certificate of Competence in Network Technology, Level III of the National Computer Rank Examination