YUANKUN WANG

⌂ Wuhan University, Wuhan, Hubei, China

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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

Urban Perception Using Visual Data (Street-View Imagery, Aerial Imagery, Videos)
Understanding Gender Differences in the Perception of Safety

RESEARCH ACHIEVEMENT

Wang, Y., Shao, Z., Wang, J., Wang, Y., Ding, Y., & Cheng, G. TripleA: An Unsupervised Domain Adaptation Framework for Nighttime VRU Detection. *IEEE Transactions on Intelligent Transportation Systems.* (Under Review)

Ding, Y., Shao, Z., **Wang, Y.**, Yang, C., 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 Intelligent Transportation Video Big Data   *Wuhan University*

- Labeled VRUs in traffic surveillance camera data during the daytime
- Proposed an unsupervised domain adaptation framework for nighttime VRU detection using only daytime annotations, reducing the cost of manually labeling challenging nighttime data
- Authored a paper manuscript under review by *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 Street View 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 street-view image dataset
- Developed a detection model for highway traffic signage using street-view images

Understanding Chinese Street Network Patterns   Jun. 2021 – Sept. 2021
Leader, 1st Prize in Esri-Cup Chinese College Students GIS Software Development Contest

- 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

Building Damage Assessment Using High-Resolution Satellite Imagery   May 2020 – May 2021
Leader, National Training Program of Innovation and Entrepreneurship for Undergraduates

- 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 University   2023
- Graduate Study Scholarship, Wuhan University   2023, 2022
- Self-Reliance Star Scholarship (top 5%), China University of Geosciences   2020, 2019

Academic Competitions

- 3rd Prize in Huawei Cup the 20th China Post-Graduate Mathematical Contest in Modeling   2023
- 1st Prize in Esri-Cup Chinese College Students GIS Software Development Contest   2021
- 2nd Prize in National English Competition for College Students   2020
- 2nd Prize in Translation and Interpreting Contest of Hubei Province   2019

Honor

- Outstanding Individual at University Level, Wuhan University   2024
- Outstanding Youth League Member at School Level, Wuhan University   2023
- Outstanding Graduate at School Level, China University of Geosciences   2022
- Excellent Bachelor Dissertation Award at School Level, China University of Geosciences 2022
- Outstanding Individual at University Level, China University of Geosciences   2020, 2019

LEADERSHIP & EXTRACURRICULAR

- Commissary in charge of publicity, master's II class, Wuhan University   Sept. 2022 - Present
- Volunteered at the second expert group meeting of the DSSP application projects of APSCO   Jun. 2024
- Volunteered at the 2024 China-Latin American and Caribbean States Space Cooperation Forum   May 2024
- Volunteered at the 7th CISM Military World Games, accumulating 98 hours of volunteering   Nov. 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 LaTeX
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