

Wei Zhou

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Basic information

Birth Date: 1996.07

Native Place: Hefei, Anhui Province

Major: Transportation Engineering

Education: P.h.D candidate (Expected graduation by end of 2024 / early 2025)

Research interests : Cooperative Vehicle-Road Vision Perception, including 2D/3D Vehicle Detection, Road Anomaly/Accident Detection, Pedestrian Intent Recognition, Multimodal Large Models, etc.

Education experience

2019.09–2025.03 (expected)	Southeast University (985/211, Ranking in China ¹ : 15)	School of Transportation	Transportation Engineering	P.h.D candidate
2015.09–2019.06	Nanjing University of Science and Technology (985 Advantageous Discipline Platform /211, Ranking in China ¹ : 36)	School of Automation	Smart Grid and Information Engineering	Bachelor degree
ResearchGate		https://www.researchgate.net/profile/Zhou-Wei-44		
Google Scholar		https://scholar.google.com.hk/citations?user=pJQ6KKsAAAAJ&hl=zh-CN		

Research achievements

- **Papers** (A total of 32 academic papers published/accepted. Authored 10 SCI papers as the first author, each with an Impact Factor (IF) greater than 6.0, including 9 papers in JCR Q1 Journals. Authored 2 papers under revision/review as the first author, all in JCR Q1 Journals. This resume lists only the papers where I am the first or corresponding author)
- [1] **Wei Zhou**, Longhui Wen, Yunfei Zhan, & Chen Wang*. (2023). An Appearance-Motion Network for Vision-Based Crash Detection: Improving the Accuracy in Congested Traffic. *IEEE Transactions on Intelligent Transportation Systems*. (JCR Q1 | IF=8.5) (First author, Published)
 - [2] **Wei Zhou**, Yuqing Liu, Zhao Lei, Sixuan Xu & Chen Wang*. (2023). Pedestrian Crossing Intention Prediction from Surveillance Videos for Over-the-horizon Safety Warning. *IEEE Transactions on Intelligent Transportation Systems*. (JCR Q1 | IF=8.5) (First author, Published)
 - [3] **Wei Zhou**, Chen Wang, Jingxin Xia, Zhendong Qian, & Yuan Wu. (2023). Monitoring-Based Traffic Participant Detection in Urban Mixed Traffic: A Novel Dataset and A Tailored Detector. *IEEE Transactions on Intelligent Transportation Systems*. (JCR Q1 | IF=8.5) (First author, Published)
 - [4] **Wei Zhou**, Yuqing Liu, Chen Wang*, et al. "An Automated Learning Framework with Limited and Cross-Domain Data for Traffic Equipment Detection from Surveillance Videos." *IEEE Transactions on Intelligent Transportation Systems* (2022). (JCR Q1 | IF=8.5) (First author, Published)
 - [5] **Wei Zhou**, Chen Wang*, Yiran Ge, Lognhui Wen & Yunfei Zhan. All-day Vehicle Detection from Surveillance Videos Based on Illumination-adjustable Generative Adversarial Network. *IEEE Transactions on Intelligent Transportation Systems*. (JCR Q1 | IF=8.5) (First author, Published)
 - [6] **Wei Zhou**, Hongpu Huang, Hancheng Zhang, Chen Wang*, Teaching Segment-Anything-Model Domain-specific Knowledge for Road Crack Segmentation from On-board Cameras. *IEEE Transactions on Intelligent Transportation Systems*. (JCR Q1 | IF=8.5) (First author, Accepted)
 - [7] **Wei Zhou**, Yunfei Zhan, Hancheng Zhang, Lei Zhao, Chen Wang*. "Road Defect Detection from On-board Cameras With Scarce and Cross-domain data." *Automation in Construction* 144 (2022): 104628. (JCR Q1 | IF=10.3) (First author, Published)
 - [8] **Wei Zhou**, Lei Zhao, Hongpu Huang, Yuzhi Chen, Sixuan Xu, & Chen Wang *. (2023). Automatic Waste Detection with Few Annotated Samples: Improving Waste Management Efficiency. *Engineering Applications of Artificial Intelligence*, 120, 105865. (JCR Q1 | IF=8.0) (First author, Published)

¹ <https://www.shanghairanking.cn/rankings/bcur/2023>

- [9] **Wei Zhou**, Yifan Cui, Hongpu Huang, Haitian Huang, Chen Wang*, A Fast and Data-Efficient Deep Learning Framework for Multi-Class Fruit Blossom Detection. *Computers and Electronics in Agriculture*. (JCR Q1 | IF=8.3) (First author, Published)
- [10] **Wei Zhou**, Yunhong Yu, Yunfei Zhan, Chen Wang *. A Vision-based Abnormal Trajectory Detection Framework for Online Traffic Incident Alert on Freeways. *Neural Computing and Applications*, 2022: 1-14. (JCR Q2 | IF=6.0) (First author, Published)
- [11] Chen Wang, **Wei Zhou***, Junyi Yan, & Huiyao Gong. (2023). Improved Two-stream Network for Vision-based Traffic Accident Detection. *China Journal of Highway and Transport*, 36(5), 185. (Top Chinese journal in transportation) (Corresponding Author, Published)
- [12] **Wei Zhou**, Lei Zhao, Hongpu Huang, Chen Wang*, Data-efficient Object Detection on Construction Sites Using Reweighting Mechanism and Cross-batch Contrastive Learning. *IEEE Transactions on Industrial Informatics*. (JCR Q1 | IF=12.3) (First author, Major Revision)
- [13] **Wei Zhou**, Nan Zheng, Chen Wang*, Synthesizing Realistic Traffic Events from UAV Perspectives: A Mask-guided Generative Approach Based on Style-modulated Transformer. *IEEE Transactions on Intelligent Vehicles*. (JCR Q1 | IF=14.0) (First author, Minor Revision)
- [14] **Wei Zhou**, Lei Zhao, Runyu Zhang, Yifan Cui, Puhong Huang, Kun Qie, Chen Wang*, Vision Technologies with Applications in Traffic Surveillance Systems: A Holistic Survey. *ACM Computing Surveys*. (JCR Q1 | IF=23.8) (First author, under review)

➤ **Academic conference** (*Only listed the first author*)

- [1] Transportation Research Board- Annual Meeting, Washington, D.C., USA, 2024. (**Oral, First Author, Presenter**)
- [2] Transportation Research Board- Annual Meeting, Washington, D.C., USA, 2023. (**First Author, Presenter**)
- [3] Transportation Research Board- Annual Meeting, Washington, D.C., USA, 2022. (**First Author, Presenter**)
- [4] World Transport Convention, Wuhan, China, 2023. (**First Author, Presenter**)
- [5] World Transport Convention, Wuhan, China, 2022. (**First Author, Presenter, Excellent Paper Award**)
- [6] World Transport Convention, Wuhan, China, 2022. (**First Author, Presenter, Excellent Paper Award**)
- [7] The Second Academic Forum on Digital Transportation and Intelligent Travel, Guilin, China, 2023. (**First Author, Excellent Paper Award**)

➤ **Invention Patents**

- [1] Vehicle Detection Device and Method Based on Artificial Magnetic Field, **Granted**, June 2021
- [2] Tunnel Vehicle Detection Device and Method Based on Airflow Changes, **Granted**, September 2021
- [3] Lane-Specific Vehicle Counting Method Based on YOLO V4 and DeepSORT, **Granted**
- [4] Traffic Participant Detection Method in Complex Traffic Environments Based on Surveillance Video, **Granted**
- [5] Road Traffic Accident Detection Method Based on Visual Attention Mechanism and ConvLSTM Network, **Granted**
- [6] Improved Dual-Stream Traffic Accident Detection Method, **Granted**
- [7] All-Weather Vehicle Detection Method Based on One-to-Many Adversarial Networks, **Disclosed**
- [8] Traffic Congestion Detection in Road Networks Based on Multi-Weight Graph 3D Convolution, **Disclosed**
- [9] Road Defect Detection Method Based on Cross-Domain Data Learning with Limited Samples, **Disclosed**
- [10] Driving Style Change Prediction Method Integrating Evolutionary Game Theory and Machine Learning, **Disclosed**
- [11] Resilience Assessment Method for Urban Road Traffic Networks in Response to Emergency Events, **Disclosed**

Awards

2024.11	President's Fellowship, Southeast University (Only 15 recipients university-wide, the highest scholarship honor for graduate students at Southeast University)
2024.05	"Outstanding Youth" Graduate Student of the Year, Southeast University (Only 10 recipients)

	university-wide, one of the highest honors for graduate students at Southeast University)
2023.10	Graduate National Scholarship (Ph.D.)
2023.10	"Academic Innovation" Advanced Individual of Southeast University
2023.10	First Prize of Southeast University Academic Scholarship (Rank: 1/92)
2023.09	First Prize for Outstanding Paper at the 2nd Digital Traffic and Smart Mobility Academic Forum
2022.12	Recipient of "Excellent Paper" at the 2022 World Transportation Congress
2022.12	Recipient of "Excellent Paper" at the 2022 World Transportation Congress
2018.06	Second Prize in the National Traffic Science and Technology Competition for College Students
2018.04	First Prize in the Jiangsu Province Traffic Technology Competition
2017.12	First Prize in the Jiangsu Province Smart Transportation Innovation and Entrepreneurship Competition

Academic Positions

Digital Transportation and Safety	Journal	Young Editorial Board Member
Journal of Transportation Engineering and Information	Journal	Young Editorial Board Member
IEEE Transactions on Intelligent Transportation Systems	JCR Q1	Reviewer
IEEE Transactions on Intelligent Vehicles	JCR Q1	Reviewer
IEEE Transactions on Vehicular Technology	JCR Q1	Reviewer
Accident Analysis and Prevention	JCR Q1	Reviewer
Advanced Engineering Informatics	JCR Q1	Reviewer
Engineering Applications of Artificial Intelligence	JCR Q1	Reviewer
Neural Networks	JCR Q1	Reviewer
Journal of Cleaner Production	JCR Q1	Reviewer
Knowledge-based Systems	JCR Q1	Reviewer

Academic Outreach

2020.12-Present	Created WeChat public account “Deep Traffic”, currently with 8,000+ followers
2019.12-Present	Shared over 80+ articles on visual perception technology on Zhihu (China's most famous knowledge sharing platform), with over 2 million views and 10,000+ followers