

# Hang Zhou

## Curriculum Vitae

### Personal Information

Email [hzhou364@wisc.edu](mailto:hzhou364@wisc.edu)  
Websites [Homepage](#), [Google Scholar](#), [ORCID](#), [Web of Science](#)  
Research Interests Automated vehicle evaluation and control; Applications of AI and optimization in the intelligent transportation system

### Education

- 2023-Present **Ph.D. Candidate**, Major in Transportation Engineering, Minor in Computer Science  
University of Wisconsin-Madison, Department of Civil and Environmental Engineering.  
◦ GPA: 3.86/4.00  
◦ Advisors: [Xiaopeng \(Shaw\) Li](#)  
◦ Dissertation: A data-driven pipeline for the safety evaluation of production automated vehicles  
◦ Core Courses: Introduction to Neural Network (A) & Matrix Methods in Machine Learning (A) & AI and Data Science in Transportation (A)
- 2023-2025 **Master of Science (Research)**, Major in Transportation Engineering,  
University of Wisconsin-Madison, Department of Civil and Environmental Engineering.  
◦ GPA: 4.00/4.00  
◦ Thesis: Modular robot routing, planning, and control  
◦ Core Courses: Transportation Operations (A) & Traffic Control (A) & Advanced Traffic Modeling and Computer Simulation (A)
- 2019-2023 **Bachelor of Management**, Major in Management Science,  
Huazhong University of Science & Technology, School of Management.  
◦ GPA: 3.95/4.00  
◦ Advisors: [Hu Qin](#) and [Chun Cheng](#)  
◦ Thesis: An exact algorithm for the multi-visit traveling salesman problem with drone  
◦ Core Courses: Operations Research(I)(II) (96, 96) & Operational Management (86) & Business Data Analysis and Mining (A)

### Working Experience

- 2023-Present **Graduate Research Assistant**, University of Wisconsin-Madison.
- 2025-Present **Graduate Teaching Assistant**, University of Wisconsin-Madison.  
◦ Instructor for graduate-level course 574 Traffic Control in Fall 2025.  
◦ Advisor for undergraduate-level course ECE 399 Independent Study in Summer 2025.

## Journal Papers

\*: Corresponding authors.

- **Zhou, H.**, Ma, C., Shen, S., Liang, Z., & Li, X. (2026). Towards full-scenario safety evaluation of automated vehicles: A volume-based method. *Transportation Research Part C: Emerging Technologies*, 183, 105485. [\[Link\]](#) [\[Code\]](#)
- Long, K., Liang, Z., **Zhou, H.**, & Li, X. (2026). Vehicle trajectory dataset based on unmanned aerial vehicles videos. *IEEE Intelligent Transportation Systems Magazine*. [\[Link\]](#) [\[Code\]](#)
- Zhang, Y., Ma, K., Xu, Z., **Zhou, H.**, Ma, C., & Li, X. (2025). A modeling methodology for car-following behaviors of automated vehicles: Trade-Off between stability and mobility. *Transportation Research Part B: Methodological*, 200, 103316. [\[Link\]](#)
- Cai, X., **Zhou, H.**, Ma, C., Li, X., & Ran, B. (2025). Evaluating impacts of public transit and automobiles during connected automated vehicle adoption. *Journal of Advanced Transportation*, 2025(1), 4103948. [\[Link\]](#) [\[Code\]](#)
- Zhang, P., Huang, H., **Zhou, H.**, Shi, H., Long, K., & Li, X. (2025). Online adaptive platoon control for connected and automated vehicles via physical enhanced residual learning. *Transportation Research Part C: Emerging Technologies*, 178, 105242. [\[Link\]](#) [\[Code\]](#)
- **Zhou, H.**, Zhang, P., Liang, Z., Li, H., & Li, X. (2025). Coverage trajectory planning problem on 3D terrains with safety constraint for automated lawn mower: Exact and heuristic approaches. *Robotics and Autonomous Systems*, 105109. [\[Link\]](#) [\[Code\]](#)
- Liang, Z., Ma, C., **Zhou, H.**, Long, K., & Li, X. (2025). An analytical eco-driving trajectory planning method with field test validation at intersections. *Transportation Research Part D: Transport and Environment*, 146, 104870. [\[Link\]](#) [\[Video\]](#)
- **Zhou, H.**, Ma, C., Cai, X., Ma, K., Li, X., & Ran, B. (2025). Security strategy against generalized inter-vehicle cyberattacks in car-following scenarios for connected and autonomous vehicles. *Transportation Research Part C: Emerging Technologies*, 178, 105216. [\[Link\]](#) [\[Code\]](#)
- Wang, J., Zhang, R.\*, **Zhou, H.\***, Huang, W., Feng, D., & Li, X. (2025). Optimization of asphalt mix design considering mixture performance, environmental impact, and life cycle cost. *Journal of Cleaner Production*, 145618. [\[Link\]](#)
- **Zhou, H.**, Ma, C., Ma, K., & Li, X. (2025). Quantile-based scenario generation for automated vehicle safety evaluation. *Accident Analysis & Prevention*, 218, 108043. [\[Link\]](#)
- Ma, C., **Zhou, H.**, Zhang, P., Ma, K., Shi, H., & Li, X. (2025). Safety assurance adaptive control in modular autonomous vehicles. *Communications in Transportation Research*, 5, 100204. [\[Link\]](#)
- Ma, K., **Zhou, H.**, Liang, Z., & Li, X. (2025). Automated vehicle microscopic energy consumption study (AV-Micro): Data collection and model development. *Energy*, 320, 135096. [\[Link\]](#) [\[Code\]](#)
- **Zhou, H.**, Li, Y., Ma, C., Long, K., & Li, X. (2025). Modular vehicle routing problem: Applications in logistics. *Transportation Research Part E: Logistics and Transportation Review*, 197, 104022. [\[Link\]](#) [\[Code\]](#)

- Hao, R., Liang, S., Zhai, Z., **Zhou, H.**, Wang, X., Li, X., & Guan, T. (2025). Privacy-preserving awareness in sensor deployment for traffic flow surveillance. *Computer-Aided Civil and Infrastructure Engineering*, 40, 1721–1732. [\[Link\]](#)
- **Zhou, H.**, Ma, K., Liang, S., Li, X., & Qu, X. (2024). A unified longitudinal trajectory dataset for automated vehicles. *Scientific Data*, 11, 1123. [\[Link\]](#) [\[Code\]](#)
- **Zhou, H.**, Qin, H., Cheng, C., & Rousseau, L. M. (2023). An exact algorithm for the two-echelon vehicle routing problem with drones. *Transportation Research Part B: Methodological*, 168, 124-150. [\[Link\]](#)
- **Zhou, H.**, Qin, H., Zhang, Z., & Li, J. (2022). Two-echelon vehicle routing problem with time windows and simultaneous pickup and delivery. *Soft Computing*, 26(7), 3345-3360. [\[Link\]](#) [\[Code\]](#)

## Peer-Reviewed Conference Papers

- Ma, K., Zhang, Y., **Zhou, H.**, Liang, Z., & Li, X. (2025, May). Real-world automated vehicle longitudinal stability analysis: controller design and field test. In *2025 IEEE International Conference on Robotics and Automation (ICRA)* (pp. 1-7). IEEE. [\[Link\]](#)
- **Zhou, H.**, Huang, H., Zhang, P., Shi, H., Long, K., & Li, X. (2024, June). Online physical enhanced residual learning for connected autonomous vehicles platoon centralized control. In *2024 IEEE Intelligent Vehicles Symposium (IV)* (pp. 16-22). IEEE. [\[Link\]](#)
- **Zhou, H.**, Ma, K., & Li, X. (2024, June). A review on trajectory datasets on advanced driver assistance system equipped-vehicles. In *2024 IEEE Intelligent Vehicles Symposium (IV)* (pp. 1947-1952). IEEE. [\[Link\]](#)

## Honors & Awards

- 10/2022 **Outstanding Undergraduates (merit)**, HUST.
- 03/2022 **The 1988th Alumni Association Scholarship (best research individual)**, HUST.
- 12/2021 **Third Prize**, HUST Outstanding Undergraduates Annual Meeting.
- 12/2021 **Yang Ye Alumni Scholarship**, HUST.
- 10/2020 **National Scholarship**, Ministry of Education of the People's Republic of China.

## Additional Information

Blogs [Github](#): my code repositories with 200+ stars.

[CSDN](#): my blog to share technical articles with 100k+ page view.

Service Serve as an invited reviewer for journals including *Transportation Research Part E: Logistics and Transportation Review*, *IEEE Transactions on Intelligent Transportation Systems*, *IEEE Intelligent Transportation Systems Magazine*, *Computers & Industrial Engineering*, *Transportation Research Board Annual Meeting*, etc. Reviewed a total of 50+ papers.

Serve as a student volunteer for conferences such as the 2023 Workshop on Practical Applications of Intelligent Optimization and the 2nd Modified Asphalt Research Center Future Research Focus Workshop.