Peijie Wu

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EDUCATION

2017 - now	**Ph.D. Candidate.**
	School of Transportation and Engineering, Harbin Institute of Technology (HIT).
	Major: Transportation Planning and Management (Ph.D. Supervisor: Xianghai Meng),
	Research Directions: Urban traffic safety GPA: 3.33/4.00
2013 - 2017	**B.Eng.**
	School of Transportation, Chongqing Jiaotong University (CQJTU).
	Major: Transportation Engineering
	GPA: 3.60/4.00 Ranking: 1/86 (Top 1%)

AWARDS AND HONORS

2020	"Heilongjiang Province Science and Technology Progress Second Prize", Heilongjiang Provincial Department of Science and Technology;
2019	"Second Prize of Innovation Scholarship", Ministry of Industry and Information Technology in China;
	"Excellent Journal Paper Third Prize", Editor Broad of Journal of Transport Information and Safety;
2018	"Excellent Creative Design of 2050 Transportation Powerful Country", 2018 International Transportation Industry Expo Committee (Ranking: 2/30);
2017	"Excellent Undergraduate Student of Chongqing City" Title, Ministry of Education of Chongqing;
	"Excellent Graduation Thesis" Title, Chongqing Jiaotong University;
2016	"Ming De Excellent Scholarship", Chongqing Jiaotong University (Top 10 of the university);
	"Scholarship of Outstanding Undergraduate Student Nationwide", Xin Guoxian Co., Ltd (Top 1);
	Third Prize of National Competition of Transportation Technology (NAC TranS), National Traffic Engineering Teaching Committee (Team Leader);
	Honorable Mention Prize of 2016 American Mathematical Contest in Modeling, American Mathematical Modelling Committee (Team Leader);
2015	First Prize of 2015 National English Competition for College Student (NECCS), College English Teaching & Research Association of China;
	First Prize of 2015 "Shenzhen Cup" Summer Camp of Mathematical Modelling, College Mathematical Modelling Competition Committee (Team Leader);
	Second Prize of 2015 National Mathematical Modelling Competition for College Student, College Mathematical Modelling Competition Committee (Team Leader);
	National Scholarship of 2014-2015 Year, Ministry of Education in China;

ACADEMIC EXPERIENCES

2020	**National Natural Science Foundation of China Project "Research on real-time prediction Method of signalized intersection safety levels based on deep learning conflict extreme" (Leader: Zheng Lai)**
2019	**Poster Presentation in 2019 Transportation Research Board Annual Meeting "Crash Risk**

Evaluation and Crash Severity Pattern Analysis for Different Types of Urban Junctions

Attend 2019 TRB Annual Meeting in Washington D.C. in U.S and make my poster presentation.

- **Second Author of Paper in 2018 TRB Annual Meeting "The Optimal Sliding Window Length and Increment Length for Identifying Hazardous Road Segments"**

Use statistical models in sliding window to identify hazardous road segments.

2017
- **Attend "Harvard Leadership Winter Camp" in Boston, U.S.**

Attend leadership courses including leadership theory, innovation and revolution, public speeches, simulation of American presidential election.

PUBLICATIONS

2021
- **Wu, P.**, Meng, X., Song, L. (2021). Identification and Spatiotemporal Evolution Analysis of High Crash Risk Spots in Urban Roads at the Microzone-level: Using Space-time Cube Method. *Journal of Transportation Safety & Security*, DOI:10.1080/19439962.2021.1938323

- **Wu, P.**, Meng, X., Song, L. (2021). Bayesian space-time modeling of bicycle and pedestrian crash risk by injury severity levels on a macroscopic scale to explore the long-term spatiotemporal effects. *Physica A: Statistical Mechanics and its Applications*, 581, 126171.

- **Wu, P.**, Meng, X., Song, L. (2021). Influence of built environment and roadway characteristics on the frequency of vehicle crashes caused by driver inattention: a comparison between rural roads and urban roads. *Journal of Safety Research*. (in press)

2020
- **Wu, P.**, Meng, X., Cao, M. (2020). Spatiotemporal patterns mining and identification for black spots in urban roads based on the space-time cube method. *China Safety Science Journal*. 30 (11): 127-133.

- Meng, X., **Wu, P.**, Li, L. (2020). The Exploration and Achievements of the Transit Metropolis with Chinese Characteristics. *Highway Engineering*. 45 (6): 117-123.

- Song, L., Fan, W., Li, Y., **Wu, P.** (2020). Exploring pedestrian injury severities at pedestrian-vehicle crash hotspots with an annual upward trend: a spatiotemporal analysis with latent class random parameter approach. *Journal of Safety Research*. 76, 184-196.

- Song, L., Fan, W., Li, Y., **Wu, P.** (2020). Modeling pedestrian-injury severities at pedestrian-vehicle crash locations considering spatiotemporal patterns: insights from different hierarchical Bayesian random-effects models. *Analytic Methods in Accident Research*. 28: 100137.

2019
- **Wu, P.**, Meng, X., Song, L., Zuo, W. (2019). Crash Risk Evaluation and Crash Severity Pattern Analysis for Different Types of Urban Junctions: Fault Tree Analysis and Association Rules Approaches. *Journal of the Transportation Research Board: Transportation Research Record*, 2673(1), 403-416.

- **Wu, P.**, Meng, X., Song, L. (2019). A Novel Ensemble Learning Method for Crash Prediction Using Road Geometric Alignments and Traffic Data. *Journal of Transportation Safety & Security*. 12:9 1128-1146.

- Wang, X., Song, L., Wu, Z., **Wu, P.** (2019). Development of a road shoulder's equivalent sound source traffic noise prediction model. Proceedings of the Institution of Civil Engineers-Transport, 1-10.

- Wang, X., Song, L., **Wu, P.**, Yu, S. (2019). Analysis of Unconventional Design for Signalized and Closely-Spaced T-Intersections. In CICTP 2019, pp. 2636-2647.

2018
- **Wu, P.**, Meng, X., Cui, H. (2018). Crash Risk Prediction Method of Long Freeway Segments Based on Road Network Traffic Safety Management. *Journal of Transport Information and Safety*, 36(4), 7-14

- Meng, X., Zhang, D., **Wu, P**. (2018). The Optimal Sliding Window Length and Increment Length For Identifying Hazardous Road Segments. *Journal of Transportation System Engineering and*

Information Technology, 18(4), 148-155.

- Wang, X., Song, L., **Wu, P.** (2018). A Novel Method of Island Port's Transport: Automatic Guided Vehicle Approach. *In 2018 3rd IEEE International Conference on Intelligent Transportation Engineering (ICITE)*, pp. 219-224.

PATENT

2020	Meng, X., **Wu, P.**, Liang, X., Liu, Z., Liu, X. Sudden accident type recognizing method of two-display-signal controlled cross-shaped intersection, No.: CN108198423B.
	Wang, X., Song, L., **Wu, P.** A fire alarm and automatic fire extinguishing system for dangerous chemicals containers, No.: CN108815782B.
	Meng, X., Liu, X., Meng, L., Liu, Z., **Wu, P.** High-speed rail passenger flow demand forecasting method based on highway network passenger flow, No.: CN108198423B.
	Meng, X., Zhang, E., **Wu, P.**, Song, D., Jia, Y. Mobile house planning method under background of unmanned driving technology, No.: CN111196202A.
2018	Chen, J., **Wu, P.**, Wang, J., Fan, W., Liu, Y., Sun, Y. Power-assisted passage system of bicycles, applied to mountain cities, No.: CN105951546B.
	Chen, J., **Wu, P.**, He, Y., He, H., Wang, Y., Qin, Y. City signal intersection safety guiding method and system based on holographic projection technology, No.: CN105702060B.
	Wang, X., Song, L., **Wu, P.** Connecting and locking device and container, No.: CN108382751A.
	Meng, X., Liu, X., Liang, X., **Wu, P.,** Liu, Z. Traffic safety evaluation method of road network planning scheme, No.: CN108109378A.

RESEARCH INTERESTS

Traffic Safety	Crash risk modelling of urban networks, Spatiotemporal big data applications in traffic safety, Graph neural network-based sparse crash prediction, Micro-level safety evaluation of high-risk crash spots/vulnerable road users.
Transit	Comprehensive public transportation modes, Intelligent transit system.
Planning	Integrated transport planning.

COMMUNITY SERVICE & ACTIVITIES

2019	**Volunteer** of "Intelligent Transportation, International Summer School" in Harbin, China.
	Volunteer of "Forum of Chinese Transportation College Dean" in Dalian, China.
2018	**Organizer** of "Forum of Chinese Transportation College Dean" in Jinan, China.
2017	**Vice president** of graduate student's union of transportation science and engineering school in HIT.
	Volunteer of Working Conference of the Steering Committee for Higher Education Transportation Education of the Ministry of Education
2014	**Director** of Propaganda Department of student's union of transportation school in CQJTU.
2013	**Member** of Chinese Young Volunteers Association (CYVA).