

Shouzheng Pan

Ph. D. Candidate

Department of Civil & Environmental Engineering, University of Utah

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Research interests: Transportation network modeling; Electric vehicle fleet optimization; Sustainable transportation; Traffic data analysis; Traffic flow theory

EDUCATION

Ph.D. Candidate in Civil Engineering (GPA 3.97/4.0) 2023.01-present

University of Utah (UU)

Major courses: Operations Research for Systems, Transportation planning, Traffic operation analysis, Spatial Modeling and Geocomputation

M.S. in Transportation Engineering (GPA 3.59/4.0) 2019.09-2022.07

Beijing University of Technology (BJUT)

Major courses: Methods of data analysis with R software, Intelligent optimization algorithms, Traffic network analysis, Traffic planning model, Ground information data Analysis, Traffic flow theory

B.S. in Transportation Engineering (GPA 3.33/4.0) 2015.09-2019.07

Shandong University of Science and Technology (SDUST)

Major courses: C programming language, Operations research and systems engineering, Transportation economics, Traffic engineering, Transportation organization, Transportation planning, Logistics system planning

JOURNAL PUBLICATIONS

- **Shouzheng Pan**, R Wei, X Liu, J Phillips, B Wang. Strategic Bi-Objective Optimization for Electric Vehicle Fleet Replacement Leveraging Shared Charging Facilities. Computers, Environment and Urban Systems. 2025, under review.
- **Shouzheng Pan**, S Ling, N Jia, Y Liu, Z He. On the dynamic vulnerability of an urban rail transit system and the impact of human mobility. Journal of Transport Geography. 2024 Apr 1;116:103850.
- B Chen, B Wang, **Shouzheng Pan**, et al. On the Resilience Evaluation of Urban Multimodal Transportation Network Considering Dynamic Travel Demand. Transportation Research Record. 2024, under review.
- **Shouzheng Pan**, J He, Y Wang, et al. On the Influence of Circle Line on the Resilience of Subway Network[J]. Journal of Transportation Engineering and Information, 2022, 20(04): 100-110. DOI: 10.19961/j.cnki.1672-4747.2021.08.020. (in Chinese)
- **Shouzheng Pan**, J He, F Wang, et al. Analysis of synchronization mechanism of two-lane heterogeneous traffic waves[J]. Journal of Highway and Transportation Research and Development, 2022, 39(04): 140-149. (in Chinese)
- **Shouzheng Pan**, H Yan, J He, et al. Vulnerability and resilience of transportation systems: A recent literature review[J]. Physica A: Statistical Mechanics and its Applications, 2021: 126235.

CONFERENCE PAPERS

- Arman Malekloo, **Shouzheng Pan**, Yirong Zhou, Nikola Markovic, Xiaoyue Cathy Liu. Data-Driven Approach for Paratransit Service Performance Assessment and Coverage Analysis. TRB Conference in Washington, D.C. 2024
- **Shouzheng Pan**, Ning Jia, Der-Horng Lee, Zhengbing He. On the dynamic demand-influenced vulnerability of urban rail transit systems. TRB Conference in Washington, D.C. 2024

PRESENTATION AND POSTER

- **Shouzheng Pan**, Strategic Bi-Objective Optimization of Electric Vehicle Fleet Replacement and Shared Charging for Sustainable Mobility. ITE Utah Section Annual Conference 2025.
- **Shouzheng Pan**, On the dynamic demand-influenced vulnerability of urban rail transit systems. TRB Conference in Washington, D.C. 2024
- **Shouzheng Pan**, Assessing the dynamic vulnerability of an urban rail transit system and a case study of Beijing, China. ITE Utah Section Annual Conference 2023.

HONORS & AWARDS

- **Best paper Award** of TRB Conference in Washington, D.C. 2024. Paper title: On the Dynamic Demand-Influenced Vulnerability of Urban Rail Transit Systems
- **National Scholarship** for Graduate Students in 2021
- **Outstanding Graduate** of BJUT in 2022
- **Best Thesis Award** of BJUT in 2022. Thesis title: Assessing an urban rail transit network resilience considering time-varying demands

ACTIVITIES

- As a **reviewer** of Journals, including the Physica A, Renewable Energy, Transportation Research Record, and Journal of Transportation Engineering and Information.
- Participated in the 2024 Transportation Research Board (TRB) Conference and made **presentation** and poster.
- Participated in the 2023 and 2025 ITE Utah Section Annual Conference and made **presentation**.

PROJECTS

- Utah Transit Authority, UTA Electric Bus Deployment Optimizing Air Quality for Disadvantaged Communities, 2024/09-2025/06, **Participate**
- Utah Transit Authority, Existing Paratransit Service Analysis, 2023/03-2024/12, **Participate**
- University of Utah, Telematic data-enabled Campus Fleet Assessment and Interactive Visualization, 2023/01-2023/06, **Participate**
- National Key Research and Development Program of China, Urban agglomeration passenger travel identification and hub group layout technology based on mobile Internet and big data, 2019/03-2021/12, **Participate**
- National Key Research and Development Program of China, Universal driver model for simulation in vehicle-road cooperative environment, 2019/03-2022/12, **Participate**
- National Natural Science Foundation of China, Spatio-temporal self-inference model of traffic state of urban road network driven by data, 2019/01-2022/12, **Participate**

TEACHING EXPERIENCE

- CVEEN 2410 Spring 2025 Geomatics, **Teaching Assistant**
- CVEEN 2410 Fall 2024 Geomatics, **Teaching Assistant**
- CVEEN 5510 Spring 2024 Highway Design, **Teaching Assistant**

SOFTWARE SKILLS

- Matlab, Python, Latex, MySQL, ArcGIS, TransCAD, CAD, C language et al.