Yinquan WANG

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Education

Ph.D of System science — *Beijing Jiaotong University*
Ph.D's degree program — *September 2019 – June 2024*
Thesis:Driver-passenger matching and vehicle repositioning optimization in the Ride-sourcing market
Supervisor: Jianjun WU

Visiting student in Transportation Planning — *Hiroshima University*
Visiting Ph.D program — *May 2022 – June 2023*
Lab: Mobilities and Urban Policy
Co-supervisor: Junyi ZHANG, Tao Feng

Master of Transportation Planning and Management — *Beijing Jiaotong University*
Master's degree program — *September 2018 – June 2019 (continued as Ph.D candidate)*
Major: Transportation Planning and Management
Supervisor: Huijun SUN

Bachelor of Traffic Engineering — *Qingdao University of Technology*
Bachelor's degree program — *September 2014 – June 2018*
Major: Traffic Engineering

Accepted papers

Reassignment Algorithm of the Ride-Sourcing Market Based on Reinforcement Learning *2023*
First author — *IEEE Transactions on Intelligent Transportation Systems*
DOI: 10.1109/TITS.2023.3274636.

Order dispatching optimization in ride-sourcing market by considering cross service modes *2023*
First author — *Journal of Central South University*
DOI: 10.1007/s11771-022-5193-4.

Promoting collaborative dispatching in the ride-sourcing market with a third-party integrator *2024*
First author — *IEEE Transactions on Intelligent Transportation Systems*
DOI: 10.1109/TITS.2023.3348764.

Reinforcement learning-based order-dispatching optimization in ride-sourcing service *2024*
First author — *Computers and Industrial Engineering*
DOI: 10.1016/j.cie.2024.110221.

Research project

Management optimization and intelligent service of car-sharing travel under big data environment *2020*
Key student participants — *National Natural Science Foundation of China*

- Coordinate the development of the data analysis platform, coordinate the design requirements of functional modules, and coordinate the formulation of data interface specifications.
- Design platform UI and back-end API, write front-end visualization and back-end algorithm and analysis code, write development documents

Future Urban Transportation Management *2023*
Key student participants — *National Natural Science Foundation of China*

- Write a deduction and simulation platform for online travel system under emergency and road control

Research on matching algorithm of ride-sourcing considering individual heterogeneity *2021*
Principal Investigator — *Beijing Jiaotong Univeristy Fund for Student*

- Formulate the simulation technology route of combining reinforcement learning and individual behavior model

Personal projects

Sharing Mobility Analysis, Regulation and Track (SMART) platform *2022*
Simulation and Track Platform *Developer*
A platform that integrates ride-sourcing, shared car and shared bicycle order data, trajectory data analysis, mining and visualization, travel demand forecasting, etc.

RideSourcingEmergency *2023*
Simulation and Track Platform *Developer*
Deduction and simulation platform for ride-sourcing system under emergencies and road control.

RideSourcingGym *2023*
Simulation, Training and Test Environment *Developer*
A simulation environment for the ride-sourcing system that supports reinforcement learning-based dispatching algorithms, reposition algorithms, and space-time pricing algorithms.

Technical skills

Deep Learning	Pytorch, Gym, Stable-baselines3
Data Science	Pandas, Numpy, Scipy, Scikit-learn, Spark
Operations Research	cplex DOcplex
Visualization	Matplotlib, Echarts, seaborn, leaflet, Mapboxgl, Arcgis
Web Development	Django, JavaScript, React, Django REST Framework, Axios, Antdesign

Awards

National Second Prize	the Second Digital China Innovation Competition	*2022*
National Third Prize	Mathematical Contest in Modeling for Chinese Graduate Students	*2019*
First Prize	Beijing Jiaotong University Doctoral Scholarship	*2019,2020, 2021*

Work experiences

Traffic Information Center *Beijing Transportation Commission*
Assistant engineer *2019.03-2019.06*
Formulate the “Specifications for Labeling Text Information of Transportation Video Images”