



EDUCATION

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| Master's degree: Tongji University School of Transportation Engineering: Intelligent Transportation System Engineering Supervisor: Prof. Wanjing Ma GPA: 4.65/5.00 (ranking 10/119) Honorary Award: Excellence Award of Shanghai College Student Transportation Innovation Competition (2021) | Sep 2020 - Jun 2023 |
| Bachelor's degree: Tongji University School of Transportation Engineering: Transportation management engineering GPA: 4.39/5.00 (ranking 1/19) Honorary Award: Third Prize of Outstanding Undergraduate Scholarship of Tongji University (2016-2017) First Prize of Outstanding Undergraduate Scholarship of Tongji University (2017-2018, 2018-2019) Second Prize of the Sixth National Logistics Design Competition for College Students (2018) Third Prize of 18th "Tong Lu Ren" Traffic Science and Technology Competition (2019) Outstanding Graduate of Tongji University (2020) | Sep 2016 - Jun 2020 |

RESEARCH EXPERIENCE

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| Expressway Rear-end Conflict Pattern Classification and Modeling (TRB Annual Meeting Under Review) | Nov 2021 - Sep 2022 |
| <ul style="list-style-type: none">Conflict patterns classification : Classify 7262 conflict events into six conflict patterns using an improved K-Means algorithm and interpret the meanings of each conflict pattern.Conflict patterns modeling: Establish a multivariate Poisson-lognormal (MVPLN) model considering spatial-temporal correlation to obtain relationship between the independent variables and the frequency of each conflict pattern in spatial-temporal units.Tools: Python, R, QGIS. | |
| Research on deviation correction method of floating vehicle trajectory data on urban road (applied in several projects) | Dec 2019 - Jul 2020 |
| <ul style="list-style-type: none">Data cleaning: coordinate transformation to a unified coordinate system, denoising and smoothing to remove redundant points and noise points in the trajectory data.Map matching: Based on Hidden Markov Model and Viterbi algorithm, the trajectory data points are corrected to the correct road segment, and ArcGIS is used to present the final result.Tools: C#, ArcGIS | |

PROJECT EXPERIENCE

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| National key research and development plan: Urban Multi-mode Transportation System Collaborative Control Key Technology and System Integration | Nov 2020 - Mar 2022 |
| <ul style="list-style-type: none">Demand analysis: Field investigation of the operation status of the intersections in Suzhou, Wujiang, Kunshan and other cities. Clarify the demonstration scenarios and solutions for the bottleneck problems of each intersection.Coordination and communication: Participate in the implementation and verification of project results such as real-time traffic signal optimization control, bus signal priority control, and smart collaborative management and control platform in five demonstration cities (Suzhou, Wuxi, Kunshan, Wuhan, and Jinan).Tools: Python, Word, Excel, PowerPoint, Visio, etc. | |
| Lanzhou New District Smart Transportation Open Test Zone Construction Planning | May 2021 - Aug 2021 |
| <ul style="list-style-type: none">Demand analysis: On-the-spot research on the current situation of smart transportation construction, and put forward the requirements for intersection construction according to specific problems.Scheme design: Design the intelligent construction scheme of the intersection, arrange the MEC equipment points, and propose feasibility from the aspects of safety and economy.Tools: Python, Word, Excel, PowerPoint, Visio, etc | |
| Application Scenario Research and Simulation Evaluation System of Vehicle-Road Cooperative System | Dec 2019 - Oct 2020 |
| <ul style="list-style-type: none">Demand analysis: Investigate and analyze the main difficulties in the development of the current ICV safety and efficient test platform, collect and sort out the requirements and characteristics of each test scenario. Clarify the platform architecture design, simulation scenario design and platform information flow design.Technology research and development: Responsible for the map matching module. Processed trajectory data based on the DBSCAN algorithm. Vissim was used to simulate map data. Hidden Markov Model (HMM) was used to match GPS trajectory data points to road sections, and ArcGIS was used to present matching results.Tool: C#. | |
| Analysis of the Comprehensive Benefit Evaluation of the Mass Transit Public Transport System | Dec 2019 - Oct 2020 |
| <ul style="list-style-type: none">Demand analysis: Investigate and analyze the defects of the existing evaluation index system, sort out representative indicators, and clarify evaluation goals and needs.Technology research and development: The comprehensive benefit evaluation index system of the mass transit public transportation system was constructed, and the index evaluation calculation method was proposed based on the actual available data. Using GPS trajectory data, the bus travel time dispersion ratio, the front distance dispersion ratio and other indicators were calculated.Tool: Python. | |
| Research on Passenger Flow Analysis Method in Sections of Urban Rail Transit Network | Sep 2018 - Oct 2019 |
| <ul style="list-style-type: none">Data processing: Clean the AFC data of Beijing Rail Transit, draw the probability distribution map of the waiting time of passengers entering the station, and calculate the passenger flow. | |

- Model establishment: Analyze the corresponding relationship between the time of passengers leaving the station and the arrival of the subway, and establish a passenger flow calculation model.
- Tool: Python.

INTERNSHIP EXPERIENCE

Shanghai Transportation Development Research Center

Jul 2022 - Aug 2022

Institute of Traffic Big Data and Modeling : Traffic Data Analysis

- Formulate the renovation plan for the second phase of Yuyuan Garden, Shanghai, including platform architecture design, new function design, equipment performance requirements, etc.
- Participated in the research on smart transportation planning in Fengxian District, Shanghai, including smart transportation infrastructure, smart passenger transport, smart information management system, autonomous driving test area planning, etc.

Shanghai Shentong Metro Company

Oct 2019 - Nov 2019

Shanghai Metro Dispatch Center : Subway Dispatcher

- Assist in the operation of the computer automatic blocking method operation process and the shunting operation procedure in the depot.
- Guide the flow of people in the station and deal with emergencies.

Shanghai Railway Bureau

Sep 2019 - Oct 2019

Railway Dispatching Office : Railway Dispatcher

- Assist in drawing railway marshalling plans, record dispatching command information, and issue dispatching orders.
- Monitor the flow of people in high-speed rail stations, and publish high-speed rail delays and emergency situations.

LEADERSHIP EXPERIENCE AND VOLUNTEERING

Deputy Manager of "Charity & Love House", Jiading Campus, Tongji University

Sep 2020 - Sep 2022

- Organized book rafting activities in Jiading campus and collected a total of more than 1000 books.
- Organized student graduation gown rental activities and served more than 200 students.
- Provided cat food for stray cats on campus.

SKILLS AND INTERESTS

- **Skills:** Python, SQL, SPSS, ArcGIS, QGIS, C#, Office, Visio, Xmind, etc.
- **Certifications:** Shanghai Computer Rank Examination Level 3 (Database)
- **Languages:** TOEFL: 93 (Reading: 23; Listening: 22; Speaking: 21; Writing: 27)
- **Interests:** Guzheng (level 10), guitar