SHEN YIFAN

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EDUCATION

Shanghai Jiao Tong University (SJTU) *Sep. 2019 – Mar. 2022 (Expected)*

- *Master* in Logistics Engineering
- **GPA:** 3.95/4.0, **Advisor**: Prof. Jun Xia

Shanghai Jiao Tong University *Sep. 2015 – Jun. 2019*

- *Bachelor* in Transportation (International Shipping)
- **GPA:** 3.56/4.0, **Advisor**: Prof. Jiangang Jin

RESEARCH EXPERIENCE

Research on Intermodal Container Routing Problem *Sep. 2020 – Present*

Research Assistant, Sino-US Global Logistics Institute (Advisor: Prof. Jun Xia) *Shanghai, China*

- Investigated the intermodal container routing problem considering three practical service requirements
- Designed a network flow model and constructed a MILP problem
- Solved the problem with Benders Decomposition and Column Generation algorithms using CPLEX solver
- Conducted computational experiments to prove the effectiveness and efficiency of the method, which can solve instances with up to 50 commodities and 20 shipping lines to an optimality gap of 10% in two hours

Research on Emergency Shelter location & Pedestrian Evacuation *Sep. 2018 – Jan. 2021*

Research Assistant, Department of Transportation (Advisor: Prof. Jiangang Jin) *Shanghai, China*

- Studied the problem of location selection of underground emergency shelters in urban community areas and pedestrian evacuation planning in emergency
- Designed a network flow model and developed a minimum-cost-maximum-flow solution algorithm
- Conducted a real-world case study in Shanghai and identified the bottlenecks of the pedestrian evacuation network
- Proposed managerial insights about the potential of utilizing the underground space for emergency

Research on Bike-sharing Data and Riding Patterns *Sep. 2017 – Jun. 2019*

Research Assistant, Department of Transportations (Advisor: Prof. Jiangang Jin) *Shanghai, China*

- Analyzed the bike-sharing data to identify the gap between the increasing cycling mobility demand and the supply of infrastructure
- Implemented a graphic clustering algorithm to identify typical patterns of cycling in spatial and temporal dimensions and understand the mobility demand
- Conducted two real-world case studies and identified three factors effecting the construction of cycling infrastructure
- Proposed managerial insights and policy measures for improving the cycle lane network

Research on Traffic Safety and Efficiency of Turbo Roundabouts *Sep. 2017 – Jun. 2018*

Research Assistant, Transportation Research Center (Advisor: Prof. Linjun Lu) *Shanghai, China*

- Manually collected the traffic data of a typical five-leg roundabout in the field
- Simulated the normal roundabout and the novel turbo roundabout with PTV VISSIM
- Analyzed the safety and efficiency improvement of turbo roundabouts with proposed evaluation indices under different traffic volumes and turbo radii, and concluded suggestions on roundabout design

PUBLICATIONS

- **Optimizing Underground Shelter Location and Mass Pedestrian Evacuation in Urban Community Areas: A Case Study of Shanghai** (2021).
  Jian Gang Jin, Yifan Shen, Hao Hu, Yiqun Fan, & Mingjian Yu.
  Transportation Research: Part A, 149, 124-138. DOI: 10.1016/j.tra.2021.04.009 [Article Here]

- **Safety and Efficiency Analysis of Turbo Roundabout with Simulations Based on the Lujiazui Roundabout in Shanghai** (2020).
  Qiujia Liu, Jiali Deng, Yifan Shen, Wenxin Wang, Zhan Zhang, & Linjun Lu.
  Sustainability, 12(18), 7479. DOI: 10.3390/su12187479 [Article Here]
- **Understanding the bike sharing travel demand and cycle lane network: The case of Shanghai** (2019).
  Dingyi Zhuang, Jian Gang Jin, Yifan Shen, & Wei Jiang.
  International Journal of Sustainable Transportation, 1-13. DOI: 10.1080/15568318.2019.1699209 [Article Here]

CONFERENCES

Intermodal Container Routing Optimization with Service Requirements *Aug. 2021*

- INFORS 2021 (The 22nd Conference of the International Federation of Operations Research Societies), oral presentation, online

WORKING EXPERIENCE

Annto Logistics Co., Ltd., Midea Group *Mar. 2021 – Present*

Assistant Analyst, ***Intelligent Delivery Scheduling System Design & Cost-benefit Analysis*** *China*

- Sorted out the business process of delivery and analyzed the practical requirements of the company by fieldwork and surveys
- Analyzed the freight rate system of the company with real history data and proposed fleet design recommendations to reduce cost
- Modelled the delivery problem as a VRP and solved it based on Clarke-Wright Savings Algorithm

China COSCO SHIPPING Co., Ltd. *Sep. 2020 – Present*

Assistant Analyst, ***Emergency Response Optimization of China-Europe Land-sea Express*** *China*

- Analyzed the operation of China-Europe Land-sea Express, a global intermodal container transportation service, and extracted a container routing problem
- Provided the cargo routing decision, railway line planning and emergency response plan for the service with MILP mathematical models and real shipping line data
- Designed an efficient decision method for railway line planning problem in Europe to replace the primitive manual one

LANGUAGES AND SKILLS

- **Languages:** English, Mandarin, German
- **Programming Languages:** Python, R, Matlab, LaTeX
- **Softwares:** CPLEX, Gurobi, Arena, TransCAD, ArcGIS, PTV VISSIM

HONORS AND AWARDS

- First Class Scholarship, SJTU *2021/2020*
- National Scholarship (0.2%) *2020*
- Excellent Student Cadre, SJTU *2020/2016*
- Outstanding Graduate, SJTU *2019*
- *Grand Prize*, "Zhixing Cup" Shanghai Social Practice Project Competition *2019*
- *1st Prize*, "Siyuan Cup" Competition of Transport Science and Technology *2018*

EXTRACURRICULAR ACTIVITIES

- Chairman, Graduate Student Union, Sino-US Global Logistics Institute *Sep. 2020 – Sep. 2021*
- Editor-in-chief, NAOCER Studio (official school media platform) *Sep. 2016 – Sep. 2018*