Yuzhuang Pian

No. 323 Jiaotong Building, 381 Wushan Rd, Guangzhou, Guangdong, China 510641
(+86) 198-7909-7081 | 201921009060@mail.scut.edu.cn | Google Scholar | linkedin

Education

South China University of Technology (SCUT) Guangzhou, China
Master of Transportation Engineering *Sep. 2019 – Jun. 2022*

- Advisors: Prof. Lunhui Xu
- GPA : 3.59/4.0; Ranking : 3/59

Chongqing Jiaotong University (CQJTU) Chongqing, China
Bachelor of Traffic and Transportation *Sep. 2015 – Jun. 2019*

- Advisors: Prof. Jinshuan Peng
- GPA : 3.49; Ranking : 6/112
- A Pilot Class in Distinguished Engineer Training Program
- Outstanding Graduates of CQJTU

Publication & Working Papers

1. **Analysis and Simulation Optimization of Passenger Flow in Urban Rail Transit Station**
   Yuzhuang Pian, Jinshuan Peng, Lunhui Xu*, Pan Wu, and Jinlong Li
   5th International Conference on Traffic Engineering and Transportation System. (EI Conference)

2. **A Combined Deep Learning Method with Attention-Based LSTM Model for Short-Term Traffic Speed Forecasting**
   Pan Wu, Zilin Huang*, Yuzhuang Pian, Lunhui Xu, Jinlong Li, and Kaixun Chen
   Journal of Advanced Transportation. 2020. DOI: 10.1155/2020/8863724. (SCI/EI, IF: 1.67, JCR: Q3)

3. **Bus Travel Time Prediction Based on Exterme Learning Machine Optimized by Artificial Bee Colony Algorithm**
   Lunhui Xu*, Nan Su, Yuzhuang Pian, and Peiqun Lin
   Journal of Guangxi Normal University(Natural Science Edition). 2021. DOI: 10.16088/j.issn.1001-6600.2020073102

4. **Game Analysis of Traffic Conflict between Pedestrian and Vehicles on Unsignalized Road Section Based on Cumulative Prospect Theory**
   Lunhui Xu*, Yuzhuang Pian, Yongjie Lin, and Zilin Huang
   China Journal of Highway and Transport, Minor Revision for the 2st Round Review

Professional Experience

Big Data and Transportation Network Analysis Lab Sep. 2019 – Jun.2022
Graduate student researcher with Prof. Lunhui Xu

- Prepare Master's Thesis: Game Analysis and Decision Making research on pedestrian and Vehicle Traffic Conflict in Unsignalized Road Sections
- To solve the problem of pedestrian-vehicle traffic conflict in unsignalized road sections, Cumulative-prospect-based Multiparty Conflict Game (CPMCG) was constructed.
- By analyzing the interaction between pedestrians and vehicles, it is found that conformity effect has a great influence on pedestrians' decision-making, which is introduced into the model.
- It is found that the system can form four different evolution results, and the risk cost, conformity effect and other parameters have their own influence on the results.

Chongqing Key Lab of Traffic System & Safety in Mountain Cities Sep. 2018 – Jun. 2019
Graduate student researcher with Prof. Jinshuan Peng

- Undergraduate's Thesis: Simulation and Optimization Design of Passenger Distribution Behavior of Road Passenger Stations
- The phenomenon of mustering and evacuation of passengers and traffic characteristics in road passenger terminals are quantitatively analyzed to provide parameter support for pedestrian simulation.

- Massmotion software is used to simulate passenger terminals and find bottleneck points of traffic flow in stations by analyzing pedestrian indicators such as flow, per capita density and speed.
- Optimization measures were put forward to improve the service capacity of functional areas by 41.20 %, increase the walking speed by 9.01 %, and shorten the stay time of passengers by 30.44 %.

Patents

1. **A Parking Lot Vehicle Guided Parking System**
   Yuzhuang Pian, Jinshuan Peng, Wangqing Liu, Yanshi Cao, Xuyang Jian and Lei Tang
   Chinese Invention Patent; Application Number: CN201710721572.2; Legal Status: Grant of Patent

2. **A Kind of Rssi-based Early Warning Device for Dangerous Vehicles**
   Yuzhuang Pian, Zilin Huang, Yongjie Lin, Yuqing Zhan, and Pan Wu
   Chinese Utility Model Patent; Application Number: CN202021751321.2; Legal Status: Grant of Patent

3. **An Rssi-based Road Traffic Congestion Detection and Diversion Device**
   Zilin Huang, Yuzhuang Pian, Yongjie Lin, Pan Wu, and Yuqing Zhan
   Chinese Utility Model Patent; Application Number: CN202021751310.4; Legal Status: Grant of Patent

4. **A Kind of RSSI-based for Smart City Pedestrian Traffic Collection Device**
   Chao He, Han Wang, Guoqing Wu, Yuzhuang Pian, Zilin Huang, and Jianhong Chen
   Chinese Invention Patent; Application Number: CN202021782535.6; Status: Substantive Examination

5. **A RSSI-based Real-time Traffic Accident Detection and Warning System in Tunnel**
   Binrao, Zhihong Ye, Yongjie Lin, Haochuan Zhong, Yuqing Zhan, Jiajun Wu, Yuzhuang Pian, and Zilin Huang
   Chinese Invention Patent; Application Number: CN202120982224.2; Status: Substantive Examination

Scholarships & Fellowships (selected)

2st Prize Scholarship for Excellent Student, SCUT 2019 – 2021
Awarded to graduate students with excellent academic record, winner of the award three times

Grant Graduate Research Funding (RMB ¥60,000), Guangdong Province, SCUT 2020
Design of holographic sensing system for urban road Traffic based on RSSI, Project number: pdjh2020a0030

Innovation Training Program for College students (RMB ¥3,000), Chongqing Province 2018
Design of waste vehicle recycling platform based on crowdsourcing mode, Project number: 201810618017

Innovation Training Program for College students (RMB ¥3,000), CQJTU 2017
Study on free parking Space Guidance System based on water flow, Project number: 201710618074

Academic Competiton Awards & Honors (selected)

Outstanding part-time instructor of South China University of Technology, SCUT 2020
To reward part-time counselors with excellent work skills

Outstanding Graduates of CQJTU 2019
Awarded to students with excellent comprehensive abilities

Interdisciplinary Contest In Modeling Certificate of Achievement 2018
Honorable Mention Prize

10st National College Mathematics Competition 2018
Provincial 2st Prize

Merit Student of CQJTU 2018
Awarded to students with excellent comprehensive abilities

National College Students Mathematical Contest in Modeling 2017
Provincial 2st Prize

Technical Skills

Language: Python, SQL (Postgres), Latex
Tools: Visual Studio Code, SUMO, ArcGIS, MATLAB, Massmotion, SPSS, Origin, PhotoShop
Foreign Language: CET4 (442), TOEFL (63)