GUANHUA, ZHAO

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EDUCATION

University College London, The Bartlett School of Planning *Sept.2022 - Dec.2023*

MSc Transport and City Planning, Class: predicted distinction, Related Modules: Transport and Well-being, Sustainability and Major Infrastructure Investments, Transport Consultancy Study, Sustainable Urban Development

Tongji University, College of Transportation Engineering *Aug.2018 - Jul.2022*

BEng Traffic Engineering, CGPA: 86.5/100, Related Modules: Intelligent Vehicle Infrastructure System, Urban Transport Governance, Traffic Data Analysis, Planning and Design of Intelligent Transportation System

Coursera Online *Jun.2021 - Apr.2022*

Applied Text Mining in Python (98/100),Machine Learning (99/100), Deep Learning Specialization

RESEARCH EXPERIENCE

Exploring Walking Behaviours and Perceived Walkability of Elderly Londoners

Graduate Thesis of Master, Supervisor: A.P. Jonas De Vos *Jun.2023 - Sept.2023*

- Validated the effectiveness and reliability of the adapted NEWS-OA, categorized into five sub-scales and four single items, for assessing perceived walkability among seniors in London
- Calculated the intersection density and household density of a study area using QGIS to assess its walkability
- Investigated the influence of neighbourhood types and socio-demographic characteristics on walking behaviours and perceptions on a sample size of 200 London seniors, using linear and logistic regression models by SPSS
- Examined the relationship between walking perceptions and actual walking behaviours
- **Publication**: **Zhao, G.**, Cao, M., De Vos, J. Exploring Walking Behaviours and Perceived Walkability of Older Adults in London. [Under Review]

Analysis of Influencing Factors of High Speed Railway Train Delay Based on Text Mining

Graduate Thesis of Bachelor, Supervisor: Asst. Prof. Yingying Xing *Mar.2022 - Jul.2022*

- Illustrated delayed word items and underlying causes based on record dataset of train delays from 2016 to 2019 at The Key Laboratory of Road and Traffic Engineering of Ministry of Education
- Developed the LDA model, drawing on prior knowledge, to elicit semantic-level features
- Built fuzzy fault tree for HSR train delays, assessed the effects of various delay factors on the top event via both quantitative and qualitative evaluations, and put forward effective interventions and governance priorities

The Optimal Design and Data analysis of Traffic Signal Control Scheme for the 2021 Flower EXPO

Research Assistant, Supervisor: Prof. Xiaoqing Zeng *Sept.2021 - Nov.2021*

- Contributed to the optimal design of traffic signal control schemes for key routes during the 2021 Flower EXPO at the Joint Experimental Centre for Traffic Information Control
- Conducted scheme assessments and evaluation including intersection parking test, region-level vehicle coordination control technology test, intersection signal control evaluation regarding delay time and environmental pollution
- Formulated variable signal management strategies and executed simulations in PTV VISSIM
- **Results**: The research results are part of the report of Shanghai Municipal Science and Technology Commission's scientific research plan project 19DZ04202 "Ecological Road Comprehensive Assessment and Technology Research".

Bus Operation Management Report of Bus Route 104 in Shanghai

Graduate Design, Supervisor: Prof., Yuxiong Ji *Nov.2021 - Jan.2022*

- Processed the GPS data of No. 104 bus, including data drift correction and space-time trajectory conversion
- Conducted qualitative analysis on the operation status of public transport,such as vehicle use and line operation index
- Analyzed the operation of bus sections such as section operation time and delay and station passenger delay
- Offered suggestions based on the operation and management of Shanghai No. 104 bus from 6th to 10th in Sept, 2021

Bus Driver Behavior Perception and Safety Monitoring System based on Deep Learning

Research Assistant, Supervisor: A.P. Yu Shen *Feb.2021 - May.2021*

- Established a bus driving behaviour perception model based on Inception v3 using surveillance bus videos in Shanghai
- Integrated spatio-temporal information (from OCR identification) in the videos to build a safety monitoring system for bus driver abnormal behavior detection and early warning
- Built bus driver driving behavior safety monitoring and visualization platform based on cloud service using html 5
- **Patent**: Shen, Y., Zhu, M.,**Zhao, G.**, Zhu, S., Chen, K. 'Method for establishing bus driver behavior perception and safety detection system', CN202111332685.6, Chinese Invention Patent Authorised: 2022-3-1
- **Conference**: Zhu, M., **Zhao, G.**, Zhu, S., Sun, A. (2022). Bus Driver Behavior Perception and Safety Monitoring System based on Interpretable Deep Learning. In 22nd COTA International Conference of Transportation 2022: Intelligent, Green and Connected Transportation. Reston, VA: American Society of Civil Engineers. [Abstract Accepted]

INTERNSHIP AND VOLUNTEERING

Citypedia - Sustainable Cities and Transportation | Volunteer Jan.2023 - Present

- Focus on the latest news on international and domestic cities, transportation, public space and big data, listen to/translate and share relevant literature/project reports
- Participate in social media operations, edit tweets on WeChat Platform

Sustrans | Intern Consultant Feb.2023 - Apr.2023

- Working with Portsmouth Council and local community to make Hilsea Lines more accessible to all
- Conducted a baseline assessment and provided the client with multiple short-term proposals and three long-term options, and conducting a multi-criteria analysis to determine the preferred option of a prosperous, liveable Portsmouth

Student Red Cross - Tongji University | Volunteer Oct.2018 - Dec.2019

- Organized and arranged anti-drug propaganda melodrama, i.e., making posters, and manage social media accounts
- Participated in organizing voluntary blood donation activities on university campus
- Attended first aid training, including CPR, wound dressing, AED, etc.
- Volunteered at Shanghai Anti-Drug Museum, Engaged with children through interactive activities to increase their awareness of the dangers of drugs

SKILLS

Programming Languages	Python, MATLAB, SPSS
Software & Tools	Vissim, ArcGIS, Auto CAD, Microsoft Office, Adobe Photoshop
Languages	Chinese - Native, English - Fluent