

ZHAO, GUANHUA

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EDUCATION

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

MSc Transport and City Planning, Class: 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. [In Revision]

Transport Consultancy: Hilsea Lines

Workshop Member, Supervisor: A.P. Iqbal Hamiduddin, with [Sustrans](#) *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

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 causes based on more than 15,000 train delays records from 2016 to 2019
- 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 Intern, 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 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
- Integrated spatio-temporal information (applied to OCR identification) in the videos to build a safety monitoring system for bus driver abnormal behavior detection and early warning
- Built a bus driver driving behavior safety monitoring and visualization (CAM) platform based on cloud service
- **Publication:** Shen, Y., Zhu, M., Zhu, S., Sun, A., **Zhao, G.**, Chen, K. '[Method for establishing bus driver behavior perception and safety detection system](#)', CN202111332685.6, Chinese Invention Patent Authorised: 2022-3-1

INTERNSHIP AND VOLUNTEERING

Beijing Xiaosai Network Technology Co., Ltd. | Research Assistant

Dec.2023 - Present

- Engaged in communication with transportation industry experts and authored articles on 'Low Altitude Space Economy', 'Smart Logistics', and 'Intelligent Railways'
- Developed reports on Highway Electromechanical and Urban Intelligent Transportation Market Competitions, and compiled an Industry Report on Information Technology Applications

College of Architecture and Landscape - Peking University | Teaching Assistant

Jan.2024 - Present

- Contributed to 'Climate-Friendly Design for Zero Carbon Community' module by supporting lecturers in course delivery and material development, evaluating student work, and providing academic support and guidance

Citypedia - Sustainable Cities and Transportation | Volunteer

Jan.2023 - Present

- Focused on the latest news on international and domestic cities, transportation, public space and big data, listen to/translate and share relevant literature/project reports
- Participated in social media operations, focusing on editing and publishing articles on WeChat Platform

Student Red Cross - Tongji University | Volunteer

Oct.2018 - Dec.2019

- Participated in organizing voluntary activities such as blood donation and anti-drug activities on university campus
- Volunteered as tour guide in Shanghai Museum of Anti Drug Scientific Education

SKILLS

Programming Languages

Python, MATLAB, SPSS

Software & Tools

Vissim, ArcGIS, Auto CAD, Microsoft Office

Languages

Chinese - Native, English - Fluent