Zhi Yan Chew

Personal website: https://zyanchew.github.io/portfolio/

Profile

Recent MSc graduate in Urban Analytics with a strong interdisciplinary foundation in civil engineering, mobility studies, and data science. Experienced in analyzing large-scale behavioral data and applying machine learning techniques to real-world urban challenges. Passionate about researching mobility cultures, sustainability transitions, and the socio-spatial impacts of emerging transport policies.

Educational Background

Master's Degree in Architecture, Building, and Planning | **2022 - 2024**

- Track: Urban System and Real Estate
- Eindhoven University of Technology, The Netherlands

Bachelor's Degree in Civil Engineering | **2018 - 2022**

- Major in Construction Management and minor in Transportation Engineering
- Tsinghua University, Beijing, China

Professional Experiences

Research Engineer at the National University of Singapore (NUS) | **Feb 2025 - April 2025**

Honors and Awards

Fund International Experience Grant, Eindhoven University of Technology, 2023

Malaysian Excellent Undergraduate Scholarship, Tsinghua University, 2021

Tsinghua University Freshman Scholarship, 2018

Skills

Language: Mandarin (native), English (fluent), and Malay (fluent)
Programming language & tools: Python (Pandas, GeoPandas, NumPy, Matplotlib), R (Dplyr, Tidr, ggplot2)l, SPSS, QGIS (Spatial analysis), Git (Version control)

Research Projects

Master's Graduation Project | **January 2024 - August 2024**

- Develop Bayesian Belief Networks (BBNs) to synthesize social networks at the ego and ego-alter levels for more accurate and predictive travel behavior simulation and models.

Human Mobility Challenge 2023 | **August 2023 - October 2023**

- Trained a Long-Short Term Memory (LSTM) Recurrent Neural Network (RNN) from a time series synthetic human mobility dataset to predict future mobility trajectories, codes written in Python.

Traffic Accidents Analysis Project | **February 2023 - June 2023**

- Investigate the relationship between general and bus stop-related factors and the severity of traffic accidents in Greater London.
- Used Python and QGIS for data processing, quantitative analysis, and spatial analysis.
- The binomial logistic regression model is used to test the conceptual model in SPSS.

Bachelor's Graduation Project | **December 2021- May 2022**

- Provides a framework and model to assess accessibility under natural disasters using crowdsourced big data and analyze how people's travel patterns are affected by natural disasters..
- Used Python (Pandas, Numpy, Matplotlib, etc.) for data processing, management, and visualization.

Additional Projects

Personal Portfolio Website

- Self-learned HTML, CSS, and basic frontend tools to enhance digital communication skills.
- Designed and built a personal portfolio site to showcase projects.