

Hongyu Ye

Email: h.ye-5@student.tudelft.nl •   

EDUCATION

Delft University of Technology (TU Delft), Netherlands
Faculty of Architecture and Built Environments
MSc Geomatics

Sep 2024–

Shaanxi Normal University (SNNU), China
School of Geography and Tourism
BSc Geographical Sciences

Sep 2020– Jun 2024

RESEARCH EXPERIENCE

AI4City Lab, The Hong Kong University of Science and Technology–Guangzhou, China

Research Assistant / Mentor: Asst.Prof. Wufan Zhao

Jul 2025–

- ◇ Research on environment simulation, e.g. micro-climate simulation of 3D urban models
- ◇ Develop algorithms for tree inventory, attribute extraction, and species labelling from street-view images

School of Humanities and Social Science, The Chinese University of Hong Kong–Shenzhen, China

Research Assistant / Mentor: Asst.Prof. Shuli Luo

Jun 2024– Oct 2024

- ◇ Crawling, processing, and semantic analysis of social media data on Shenzhen Metro
- ◇ Spatial querying and processing of mobile signalling data and map service API POI data
- ◇ Literature reviews on LLMs application in transit service, travel satisfaction, and urban planning

Northwest Land and Resource Research Centre, SNNU, China

Research Assistant / Mentor: Prof. Tao Li

Sep 2023– Nov 2023

- ◇ Mapping and preprocessing of road network datasets, and calculating OD time-cost matrices.
- ◇ Contributed to authored funding applications about intercity mobility volatility studies.
- ◇ Literature review on seasonality, intra-week, and holiday patterns in intercity mobility fluctuations

PROJECTS

Explainable Machine Learning Reveals Parameter Thresholds and Scene-based Adaptation of Tree Configurations

Project Leader / *Working Paper*

/Mentor: Asst.Prof. Wufan Zhao

Jul 2025–

- ◇ Develop a teacher–student pipeline that fuses ENVI–met simulation labels with gradient–boosted models to predict thermal comfort from 3D tree structure at street scale.
- ◇ Integrate LiDAR and inventory data to derive tree configuration and minimal urban–form controls, enabling robust generalisation across districts, climates, and street geometries.
- ◇ Generate importance, practical thresholds, and interactions between different variables, and obtain design–ready guidance for context–specific tree configurations optimisation.

Spatial LLM: Bridging the Gap Between Natural Language and 3D Scans

Technical Manager / *Synthesis Project*

/Mentor: Assoc. Prof. Liangliang Nan, Dr. Shayan Nikoohemat

Sep 2025– Nov 2025

- ◇ Develop a chatbot that maps natural language to spatial reasoning, turning free–form questions into intents and executable steps on indoor point clouds.
- ◇ Integrate language understanding with 2D–3D matching, lightweight segmentation, and geometric queries to locate objects, infer relations, and extract spatial attributes.
- ◇ Provide concise answers with interactive views and auto–generated measurements, enabling rapid exploration and repeatable data extraction for indoor point clouds.

Post-COVID Cities: Understanding New Dynamics of Travel Behaviour and Activities

Project Leader / Working Paper

/ Mentor: Asst.Prof. Shuli Luo

Jun 2024– Oct 2024

- ◇ Investigated the shifts in urban travel behaviours post-COVID by leveraging social media (Twitter) data to capture pre- and post-pandemic mobility trends.
- ◇ Developed a framework integrating SVM for data cleansing with LDA for topic modelling to extract travel patterns.
- ◇ Uncovered changes—declining work/entertainment trips and rising healthcare mobility—and mapped spatial-temporal variations to inform urban planning.

The Influences of Multi-scale Built Environments on Commuting Carbon Emissions of Urban Residents: A Case Study of Xi'an

Participant / National College Student Innovation and Entrepreneurship Training Programme (Country-level)

/ Mentor: Prof. Xiaoyan Huang

Jun 2022– May 2023

- ◇ Explored the multi-level impacts of built environments on travel behaviours and their environmental and social effects on residents.
- ◇ The impacts of built environments around both residences and workplaces on commuting carbon emissions among different income groups were analysed at the community level.
- ◇ The promoting effects of urban public services on migrants' social integration were analysed at the city and community levels.

CAMPUS EXPERIENCE

GEOS (Student Association of TU Delft Geomatics Programme)

Jun 2025–

Social Media Manager

- ◇ Maintenance of student organisation websites and social media updates.
- ◇ Coordination of organisations and personnel participating in activities, e.g. INTERGEO trip.

WeShare Studio (Propaganda Department of the Party Committee of SNNU)

Sep 2021– Jun 2022

Head of Video Department

- ◇ Managed a team of more than 60 people and produced 50+ videos posted on SNNU's official account.
- ◇ Gained over 2 million video playing times on various official social media platforms.
- ◇ Music producer and video director for the official 2021 & 2023 graduation music video of SNNU.

SKILLS

Language: IELTS 7 (L7.5 R7.5 S7 W6.5)

Programming: Python (OpenCV, PyTorch), C++ (CGAL, Eigen)

Software: Proficient in ArcGIS Pro, OpenFOAM, QGIS, MySQL, Blender, Pr, and Final Cut Pro.

ACADEMIC AWARDS

2023Fall: The Special Award Fund for Foreign Language Examinations of SNNU: **First Prize**

2023Fall: The Outstanding Student of SNNU: **Third-class Scholarship (Top 20%)**

2021Fall: The Outstanding Student of SNNU: **Third-class Scholarship (Top 20%)**