

Yongming Huang

www.yongminghuang.com

Yongming Huang is a Ph.D. student at the Graduate School of Horticulture, Chiba University, specializing in the Landscape Course (Landscape Architecture). He is also one of the founders of Nature AI Lab, where he serves as both a Researcher and the Head of Coordination. His research focuses on the interdisciplinary application of big data and machine learning technologies in urban vitality analysis – particularly addressing environmental justice and macro-/micro-scale urban vibrancy through quantitative studies employing various advanced methods.

He holds a Master of Architecture and Environmental Design (Urban and Architecture) from Kyoto University of the Arts, and a Bachelor's degree in Environmental Design (Architecture) from the College of Communication and Art Design at the University of Shanghai for Science and Technology (USST). His recent work was accepted for presentation at the abstract sessions of ACSP, EDRA 2024, and IFLA 2024.

Yongming's research interests include human-environment interaction and well-being, urban vitality, and environmental justice.

Main Research Themes

Space quality and vitality | The interdisciplinary application of big data and machine learning technologies to analyze the association between built environment and street vitality.

Spatial morphology and human activity patterns | The study of spatial morphology and human activity patterns reveals how various architectural and urban forms influence interactions and behaviors with space.

Human-nature Interaction and Wellbeing | Exploring the dynamic relationships between humans and urban natural environments to enhance mental and physical health.

Education

CHIBA UNIVERSITY

Ph.D. student at the Landscape Course, Graduate School of Horticulture
Research Cluster: Urban nature and vitality

Chiba, Japan
May 2025 – Present

KYOTO UNIVERSITY OF THE ARTS

Master of Architecture and Environmental Design
Research Cluster: Architecture and urban design
The program completed in 2 years

Kyoto, Japan
Mar 2025

UNIVERSITY OF SHANGHAI FOR SCIENCE AND TECHNOLOGY

Bachelor of Art in Environmental Design
The program completed in 4 years, Outstanding Graduate

Shanghai, China
Jun 2019

Academic and Professional Experience

Researcher & Head of Coordination | Nature AI Lab
Academic Research, Literature Collection, Data Analysis and Visualization, and Coordination of Work

Vancouver, Canada
May 2024 – Present

Adjunct Teaching Fellow | University of Shanghai for Science and Technology
Technical Support and Academic Thesis Advising

Shanghai, China
Jan 2024 – Present

Designer Assistant | Shanghai Xian Dai Architectural Design (Group) Co.,Ltd
Responsible for on-site measurement, spatial analysis, design proposals, technical drafting, 3D modeling, and rendering to support project development and execution

Shanghai, China
Sep 2015 – Oct 2017

Skills

Computational Design and Landscape Architecture Rhino | Grasshopper | SketchUp | Lumion | V-Ray
Spatial Data Analytics ArcGIS Pro | ArcGIS | QGIS
Data Statistics and Visualization Python | R Studio | SPSS
Algorithms Python | NumPy | OpenCV

Publications

Peer-reviewed Articles

10. **SCI:** Chen, Mingze., **Huang, Yongming.**, Zhang, Xiamengwei., Yang, Jiayi., Yuan, Fan*. Activity Diversity and the Structure of Urban Public Life: A Cross-city Analysis. *Nature cities* (Under Review)
9. **SCI:** **Huang, Yongming.**, Du, jiani., Chen, Mingze*, Lin Yuxuan., Huang Shaopo., Cai, Yuxuan. Evaluating the spatial-temporal impact of urban nature on urban vitality in Vancouver: A social media and GPS data approach. *Land Use Policy* 2026 | <https://doi.org/10.1016/j.landusepol.2025.107824>
8. **SCI:** Xiamengwei, Zhang., Chen, Mingze*, **Huang, Yongming.** Who gets to use the street? Evaluate the utilization and inclusiveness using crowdsourced videos and vision-language models. *Sustainable Cities and Society* 2025 | <https://doi.org/10.3390/app14188227>
7. **SCI:** Cai, Yuxuan+, **Huang, Yongming+**, Chen, Anzhi., Yang, Zhuohao., Chen, Mingze., Wen, Yuhan., Yang, Qiuyi., Li, Xiaowei*. Subjective perception of the physical environment: Which matters more for public area visitation thresholds across different COVID-19 pandemic stages? *Urban Forestry & Urban Greening* 2025 | <https://doi.org/10.3390/app14188227>
6. **SCI:** Fang, Zhiguo., Yao, Jiajun., Gao, Peng., Li, Xiaoyang., **Huang, Yongming***. Unequal Exposure to Safer-Looking Streets in Shanghai: A City-Scale Perception Model with Demographic Vulnerability. *Buildings* 2026 | <https://doi.org/10.3390/buildings15213987>
5. **SCI:** Wang, Zhanzhu., Weiyin, Zhang., **Huang, Yongming***. Nonlinear Perceptual Thresholds and Trade-Offs of Visual Environment in Historic Districts: Evidence from Street View Images in Shanghai. *Sustainability* 2026 | <https://doi.org/10.3390/su172411075>
4. **SCI:** Wang, Zhanzhu., Shen, Maoting., **Huang, Yongming***. Combining Eye-Tracking Technology and Subjective Evaluation to Determine Building Facade Color Combinations and Visual Quality. *Applied Sciences* 2024 | <https://doi.org/10.3390/app14188227>
3. **SCI:** Wang, Zhanzhu., Shen, Maoting., **Huang, Yongming***. Exploring the Impact of Facade Color Elements on Visual Comfort in Old Residential Buildings in Shanghai: Insights from Eye-Tracking Technology. *Buildings* 2024 | <https://doi.org/10.3390/buildings14061758>
2. **SCI:** **Huang, Yongming.**, Chen, Mingze., Xiamengwei, Zhang., Ryosuke, Shimoda., Ruochen, Yang*. Multi-Scale Street Vitality Analytics: A Comprehensive Review of Technologies, Data, and Applications. *Buildings* 2025 | <https://doi.org/10.3390/buildings15213987>
1. **SCI:** Huang, Qin., Liu, kun., Li, Fupeng., **Huang, Yongming.**, Huang, Yanggang., Ryosuke, Shimoda*. Investigation of Epistemic Equity in Urban Green Space and Mental Health Research: A Systematic Review. *International Journal of Environmental Research and Public Health* 2026 | <https://doi.org/10.3390/ijerph23020218>

Conference

2026

Gao, Peng., Cui, Zixuan., **Huang, Yongming***, Li, Xiaoyang., Du, Jiani. Calibrated Simulation and Explainable Modeling of Thermal Buffering in Cold-Region Transitional Spaces during Extreme Events | **2026 BAS** (The International Conference of Building and Simulation) Conference Abstract (Accepted)

2024

Chen, Mingze., **Huang, Yongming***, Zheng, Yuqiao., Du, Jiani. Defining Urban Vitality Using Text-based, Image-based, and GPS Data | **2024 ACSP** (Association of Collegiate Schools of Planning) Conference Abstract (Accepted)

Chen, Mingze., **Huang, Yongming***, Zheng, Yuqiao., Du, Jiani. Evaluating Urban Vitality with Big Data across 10 Global Cities | **2024 IFLA** (International Federation of Landscape Architects) Conference Abstract (Accepted)

Chen, Mingze., **Huang, Yongming***, Zheng, Yuqiao., Du, Jiani. Evaluating Urban Vitality with Big Data: Insights from Social Media and GPS Data across 10 Global Cities | **2024 EDRA** (Environmental Design Research Association) Conference Abstract (Accepted)

Reviewer of Journal Manuscripts

Sustainable Cities and Society | | Land Use Policy | Building and Environment | Plos one | npj Heritage Science

Leadership Experience

CHIBA UNIVERSITY

Teaching assistant

Project B

Data-driven Technologies in Design

Sep 2025 – Present

UNIVERSITY OF SHANGHAI FOR SCIENCE AND TECHNOLOGY LANDSCAPE LAB

Leader

Technical and academic paper Guidance Course

Workshop of paper writing, technology development, data analysis and visualization

Jan 2024 – Present

Skills & Certificates

Technical:

GIS, R Studio, Grasshopper, Python, SPSS Statistic

-Adobe Series (PS, AI, ID, PR), AutoCAD -

Modelling: Rhino, SketchUp, Vray, Lumion -

Microsoft Word, PPT, Excel

Language: Mandarin, Japanese and English

Certificates

- BIM Project Manager | **MIIT**

- National Computer Innovation Technology advertisement design high level | **MOHRSS**

- BIM Level 1 Modeler | **MOHRSS**

- N1 145 | **JLPT**

- 99 | **TOEFL**

- 780 | **TOEIC**

Professional Affiliations

Member | Environmental Design Research Association (EDRA)