

Enshan Chen – Curriculum Vitae

(As of 04/2025; Please review the digital version to access embedded links.)

1 Personal information

Enshan Chen

PhD candidate (4th year)

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2 Education

Delft University of Technology (TU Delft)

(2025 QS Ranking in Architecture: No.3)

Ph.D. (Urbanism), 2021-Present

Thesis: Towards flexible uses of railway station areas that promote station-city integration: The problems, assessment, and guidelines.

This PhD project involves intensive computational analytics, as well as research-by-design. It is a transdisciplinary research across *urban+architectural design*, *computer science*, *crowd management*, and *environmental psychology*. Half of this research is about assessing the design of stations, where transdisciplinary knowledge is involved (e.g., **computer vision** and **machine learning**):

- I use *agent-based simulation* to assess the *user experiences* (including safety, speed, ease, comfort, and experience) in station areas. The simulation mimics pedestrian movement and visual experience.
- Pedestrian movement is simulated using algorithms including *social forces* and *Dijkstra's algorithm*,
- For vision simulation, I built a model, where data collection, data processing, and model testing were involved, including the following:
 - *Object detection algorithm YOLO* is used for counting the number of pedestrians,
 - *Image segmentation* was conducted to extract objects in the street views for visual quality assessment,
 - Manual image *annotation* was conducted to get more accuracy segmentation,
 - Multiple models (incl. *neural networks*, linear regression) were tested for modeling the relationship between street elements and user scoring,
 - Spatial regression was conducted to check *spatial autocorrelation* in the data.

Tongji University

(2025 QS Ranking in Architecture: No.11)

Master of Architecture, 2018-2021

Thesis: Urban form of station areas in the context of station-city integration

Chongqing University

Bachelor of Architecture, 2011-2016

3 Technical skills

Languages: Chinese, English

Programming: Python, C#, R, HTML+CSS

Software skills: (3D-modeling, computational design, BIM) Rhino, Grasshopper, SketchUp, AutoCAD, ArchiCAD; (3D-rendering) V-ray, Lumion, Inscape; (Graphic-design, UX) Photoshop, InDesign, Illustrator, Figma; (Simulation, urban analytics, statistics, etc.) QGIS, MassMotion, SPSS, sDNA, UNA

I developed a few **software programs**:



PandaModelling –A Rhino plugin that uses large language models to build 3D models. *[Written in C#]*



PandaMeasuring –A Rhino plugin that automates the measuring of floor areas, useful for mapping density and urban form. *[Written in Grasshopper; Based on part of my Master's degree work]*



PandaAnalytics –A Rhino plugin for assessing user experience in station areas. *[Written in Python + C#; Based on part of my PhD research work]*

Other **research skills**:

- Statistical analysis,
- Quantitative research methods,
- Qualitative research methods

4 Design

- Recent update: I led a team of 6, joined a design competition, and won a prize, Sep 2024:



Figure 1: Design of a library

- The **design and research portfolio during the Master's degree time**, 2018-2021, (30+ pages, [click the link](#)):

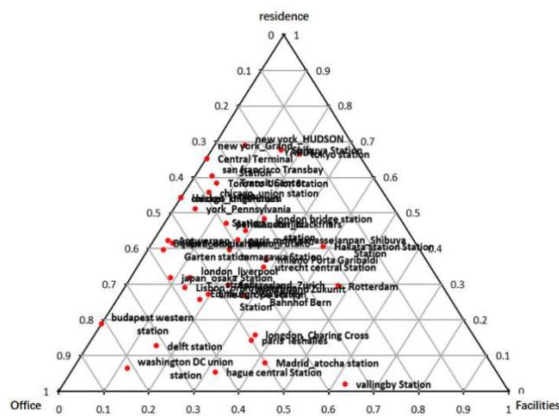


Figure 6. The MXI graph based on the data collected

General pattern and cases of function

The American cases contain a high proportion of office functions, which is consistent with the phenomenon that American trains are mostly used for short-distance office commuting. Europe is represented by countries such as the Netherlands, with a high degree of function mix, and stations both as transportation nodes and as places of activities are strongly reflected (Figures 10 and 11).



Figure 11. The east side of the utrecht central station area



Figure 12. The west side of the utrecht central station area

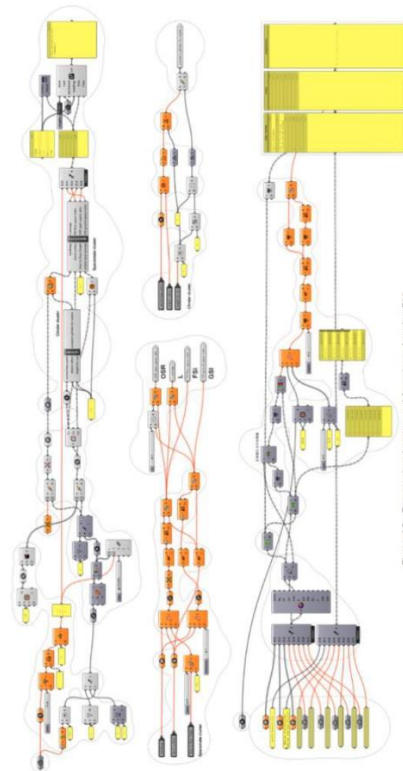
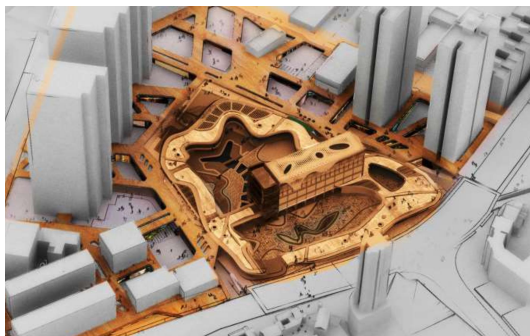


Figure 13. Extract the density and function data by GH

- The **design portfolio before and during working at Shanghai Tianhua**, 2015-2017, (30+ pages, [click the link](#))
- Non-linear and parametric design during bachelor's degree time, 2013-2014:



5 Certificate

Class 1 Registered Architect (China) (一级注册建筑师), 2023-Present

6 Publications

Published journal articles (Peer-reviewed)

[During PhD degree time]

Enshan, C., van de Spek, S., van der Hoeven, F., & Triggianese, M. (2025). [Evaluate user satisfaction for urban design of railway station areas: An assessment framework using agent-based simulation](#). *Environmental Impact Assessment Review*, 110, 107685. <https://doi.org/10.1016/j.eiar.2024.107685> **[Journal quartile: Q1; Impact factor: 9.8; SSCI]**

Chen, E., & Zhuang, Y. (2022). The Stakeholder Gaming and Element Organization—Research on the Station-city Integration Development of Utrecht Central Railway Station [In Chinese]. *The Architect*. 3, 52–60. <https://doi.org/10.12285/jzs.20211015002>

[During master's degree time]

Chen, E., Jiang, M., & Zhuang, Y. (2021). Research on Urban Morphology Characteristics of Railway Station Based on Density and Function Index[in Chinese]. *Architecture Technique*, 27(04), 100–102. <https://doi.org/10.19953/j.at.2021.04.024>

Chen, E., Yang, S., & Zhuang, Y. (2021). Analysis of Urban Security Based on Visibility: Taking Utrecht Railway Station Area as an Example [in Chinese]. *Architecture Technique*, 27(04), 121–123. <https://doi.org/10.19953/j.at.2021.04.031>

Enshan, C., & Wenda, S. (2021). Analysis of Spatial Features of Adjacent Neighbor and Preliminary Discussion of Renew -Taking Four Adjacent Neighbors of Jiangxibei Road and Wujin Road of Shanghai City as an Example [in Chinese]. *Housing Science*. <https://doi.org/10.13626/j.cnki.hs.2021.01.007>

Published conference papers, posters, or oral presentations (Peer-reviewed)

Zhoulangyi Xing, Junting LIN, enshan CHEN. (2025) Exploring Functional Configuration in European Station Areas Based on Multi-Scale Accessibility Quantification. AESOP ANNUAL CONGRESS 2025

Anan Tian, Enshan Chen (2025). Mediated Architectural Repositories: Performing a Context-Driven, Spatio-Temporal VR Archive Prototype. CDRF 2025 (The 7th International Conference on Computational Design and Robotic Fabrication)

Enshan, C., van der Spek, S., van der Hoeven, F., & Triggianese, M. (2024). Study the Design Principles for Fluctuation-Responsive Railway Station Areas. The 16th Conference of the International Forum on Urbanism (IFoU), Multi-city Online. https://www.researchgate.net/publication/384561119_Study_the_Design_Principles_for_Fluctuation-Responsive_Railway_Station_Areas [Abstract + Full paper]

Enshan, C., Stefan, van der S., Frank, van der H., & Manuela, T. (2024). Assessing user satisfaction for urban design of railway station areas. ACSP 64th Annual Conference, 1257-1258. https://cdn.ymaws.com/www.acsp.org/resource/resmgr/2024_conference/docs/acsp2024_bk_of_abstracts.pdf [Abstract]

Chen, E., van der Spek, S. C., van der Hoeven, F. D., & Triggianese, M. (2022). Station City Integration in China: Towards Mobility Resilience and Public Space Flexibility. *Urban Transitions 2022: Integrating Urban and Transport Planning, Environment and Health for Healthier Urban Living*. https://www.researchgate.net/publication/381189110_Station_City_Integration_in_China_Towards_Mobility_Resilience_and_Public_Space_Flexibility [Poster]

Published book chapters

Zhuang, Y., & Chen, E. (2022). The urban form of the railway station area. In *Station-city integra-*

tion: Urban design (In Chinese), 191-226. China Architecture & Building Press.

Papers in submission or mostly finished

Enshan, C., van de Spek, S., van der Hoeven, F., & Triggianese, M., Lin, J. Problem statement of the overcrowding and emptiness in railway station areas: Case studies 【PhD project work package 1-a】

Enshan, C., van de Spek, S., van der Hoeven, F., & Triggianese, M., Cui, M. Inquiring fluctuation-supportive spatial solutions addressing overcrowding and emptiness in railway station areas: A literature review 【PhD project work package 1-b】

Enshan, C., van de Spek, S., van der Hoeven, F., & Triggianese, M. Investigating the design principles for fluctuation-supportive Railway Station Areas 【PhD project work package 3; [Click this link to see the project website](#)】

Enshan, C., van de Spek, S., van der Hoeven, F., & Triggianese, M. Anan, T., Junting, L., Lanyi, X. Assessing visual experience: Evidence extracted from image segmentation

Enshan, C., Anan, T., van de Spek, S., van der Hoeven, F., & Triggianese, M. Assessing fluctuation-supportive design principles through workshop and agent-based simulation: Six scenarios of Sloterdijk station area, Amsterdam

Lin, J., Enshan, C., & Yu, Z. A review of urban design research on railway station areas in the European context: “Vision description - place questioning - spatial intervention - humanistic reflection” (In Chinese)

XING Zhoulanyi, LIN Junting, CHEN Enshan, ZHUANG Yu1. Identification of Areas for Optimization of Public Transit Arrivals and Departures within High-Speed Railway Stations Based on Multi-source Data – A Case Study of Shanghai Hongqiao High-Speed Railway Station Area (In Chinese).

Thesis and graduation progress

- The thesis is under internal revision.
- Expected to defense sometime between September and December 2025, depending on when my daily supervisor comes back from his sick leave and the official procedure.

7 Academic activities

17-21/03/2025. Tutoring in an international workshop: [Reimagining Architecture of Interchange](#). For a group of 35 students in the [ATHENS Network](#). TU Delft, the Netherlands

03/2025. (Online) Tutoring in a course: How to expand your discipline and keep it relevant in transformative times. Tongji University, China.

25/09/2024. Organize Workshop: Fluctuation-responsive railway station. TU Delft, the Netherlands

15/04/2024. Participant Serious Game: Crossing the Farm (a board game testing how the food system might form a future self-sustainable city, with the participation of multiple stakeholders). Rotterdam, the Netherlands

12/03/2024. Participant Workshop: Low carbon stations. TU Delft, the Netherlands

16/11/2023. Attend Conference: National stations congress. 's-Hertogenbosch, the Netherlands

06/22/2024. Present Lecture: Station-City Integration, towards the Dynamic Model: The problems, assessment, and guidelines. Active mode lab, faculty of Civil Engineering and Geosciences, TU Delft, the Netherlands

8 Working History

03/2018-09/2021, (Part-time,) Urban designer, Tongji Architectural Design (group) Co.,Ltd. Shanghai, China

- Urban Design of Core Area In Zhengzhou South Railway Station
- Urban Design Of West Lake Area In Zhangzhou

07/2016-08/2017, Architect, Shanghai TIANHUA Architecture Planning & Engineering Ltd. Shanghai, China

- Beijing Mentougou Longfor Shopping Mall
- Taiyuan Yangjiayu Macalline Residencial District Project
- Partically participated in 10+ other projects

09/2015-03/2016, (Internship,) Architect, Chongqing TIANHUA Architecture Planning & Engineering Ltd. Chongqing, China

9 A brief research plan for the coming years

My research interests lie in the urban and Architectural design of complex projects, meanwhile supporting design with emerging technologies. I built two frameworks linking rich content and technologies, as Figs. 2 and 3. During my PhD time, I have delved into some parts of the complex systems (colored texts in Fig. 2), and mainly focused on simulation as a technical method; In the future, I will continue exploring other components in these two frameworks.

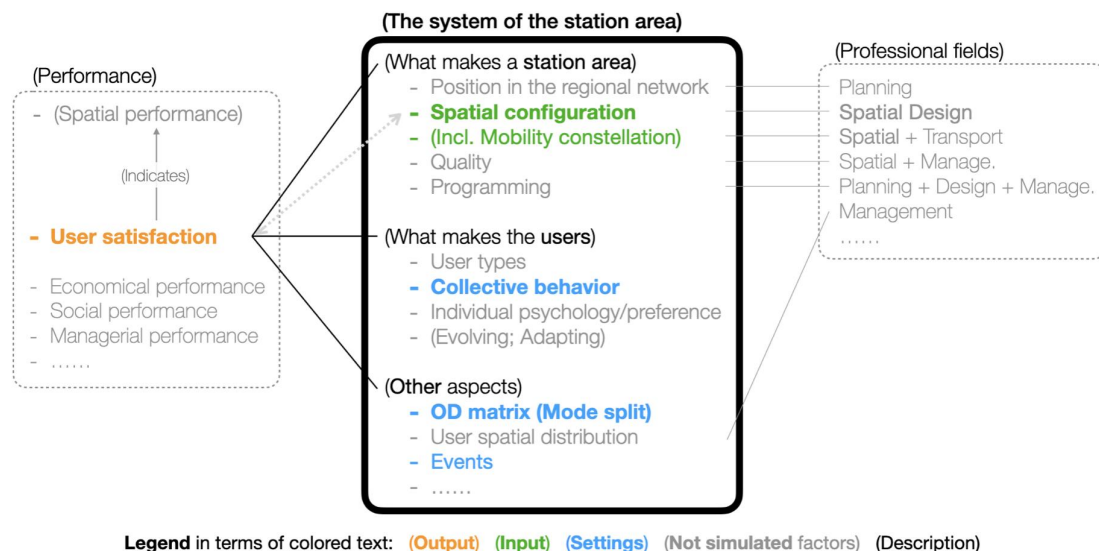


Figure 2: Simulating the system of complex projects, taking railway stations as an example

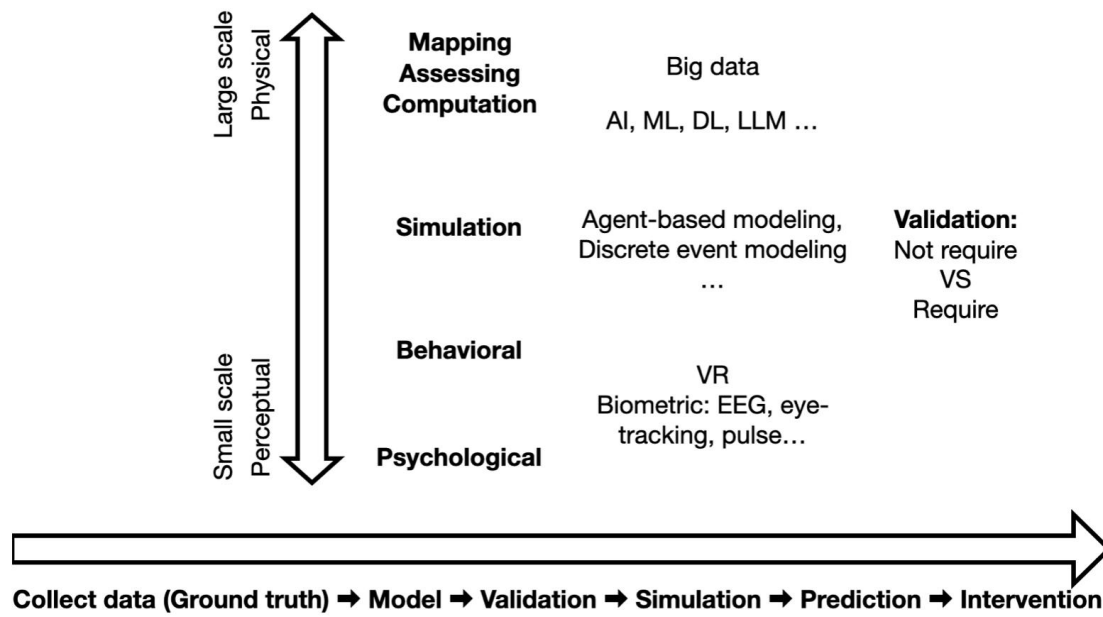


Figure 3: Research spectrum regarding technologies