

Chun Song

✉ csong945@connect.hkust-gz.edu.cn | 🏠 Chun SONG | 🎓 Scholar | 🔗 LinkedIn | 🐙 GitHub

Education

The Hong Kong University of Science and Technology (Guangzhou) *Guangzhou, P.R. China*
FULLY FUNDED PH.D. STUDENT, URBAN GOVERNANCE AND DESIGN (UGOD) *Sep. 2025 - Present*

Institute of Engineering Mechanics, China Earthquake Administration *Harbin, P.R. China*
MASTER OF ENGINEERING IN STRUCTURAL ENGINEERING *2022 - 2025*

Beijing Jiaotong University *Beijing, P.R. China*
B.E. IN CIVIL ENGINEERING, SCHOOL OF CIVIL ARCHITECTURE AND ENGINEERING *2018 - 2022*

Research Interests

Core Research Interests: Multi-agent systems, disaster simulation, and crowd dynamics.

Core Research Question: How can we develop generalizable, verifiable simulations and effectively integrate AI to enable prediction, optimization, and decision-making?

Research Affiliations

Responsible Urban Intelligence Lab (RUI Lab), HKUST(GZ) *Guangzhou, P.R. China*
RESEARCH ASSISTANT, SUPERVISED BY PROF. RUI CAO *Jul. 2025 - Aug. 2025*

Chongqing University Liyang Smart City Research Institute *Liyang, P.R. China*
RESEARCH STUDY *2023 - 2025*

Harbin Institute of Technology, School of Civil Engineering *Harbin, P.R. China*
RESEARCH STUDY *2022 - 2023*

Research Funding

Guangdong Provincial Graduate Student Research Project *2026*

- **Project Lead;** RMB 20,000 awarded for “Physics-Simulation-Driven Digital-Twin Scenario Deduction and Emergency Decision-Making Methods for Community Indoor Fires.”

Honors and Awards (Selected)

2026 **Third Prize (two projects)**, Urban Cup 2026. [Award List](#)

- “Governing the AI Shock: From Laissez-Faire Disruption to a Broad-Based AI Social Compact.” [Project Poster](#) | [Competition Video](#)
- “Personal Shade, Shared Consequences: How Umbrellas Reshape Movement and Solar Exposure in Dense Public Spaces.” [Project Poster](#).

2025 **Excellent Simulation Technology Solution**, 2025 Typical Case Collection, for “Large-scale Multi-hazard Digital Simulation and Scenario-deduction System for Cities and Urban Agglomerations.” [Certificate](#) | [Project Poster](#).

2025 **Excellent Presentation Award**, the 7th National Conference on Disaster Prevention and Mitigation Engineering, for “Urban Emergency Evacuation Simulation Models and Systems.” [Conference Program](#) | [Certificate](#).

2024 **Second Prize**, Postgraduate Division, the 4th Engineering Simulation Innovation Design Competition, 2024 Belt and Road and BRICS Skills Development and Technology Innovation Competition. [Certificate](#).

2023, 2024 **First-class Graduate Academic Scholarship**, Institute of Engineering Mechanics (two-time recipient).

2022 **Second-class Graduate Academic Scholarship**, Institute of Engineering Mechanics.

2021 **Honorable Mention**, 2021 Interdisciplinary Contest in Modeling (ICM). Team: Yingying Han, Yuqin Zhou, and Chun Song; faculty advisor: Guozhong Liu. [Certificate](#).

Publications ([†] corresponding author)

[P5] A Simulation-Based Framework for Optimizing Road Networks for Disaster Evacuation in Dense Informal Urban Settlements.

Chun Song, Zhijie Zhou, Rui Cao[†].

Under review at Computers, Environment and Urban Systems (CEUS). [Poster](#).

[P4] Unveiling Inequalities in Forgotten Enclaves: A Geospatial-Streetscape Integrated Framework for Assessing Urban Village Livability.

Zhijie Zhou, Chun Song, Rui Cao[†].

Under review at Cities.

[P3] Coupled Density-Hazard Navigation for Evacuation Reliability in Dense Urban Informal Settlements.

Chun Song, Xuchuan Lin, Rui Cao[†].

Reliability Engineering & System Safety, 2026. [Paper](#) / [Poster](#).

[P2] Analysis of influencing parameters of building fire spread simulation in urban area based on cellular automata.

Ning Yang, Qi Wang, Jiangrong Zhong, Xuchuan Lin[†], Chun Song.

The 18th China CAE Engineering Analysis Technology Annual Meeting and 14th China Digital Simulation Forum, in Chinese.

[P1] Limited Monitoring Data Based Updating Method for Fundamental Period of the Building Group Model.

Chen Xianan, Lin Xuchuan[†], Zhang Lingxin, Gao Wuping, Song Chun.

Engineering Mechanics, 2024, in Chinese.

Conference Presentations ([†] corresponding author)

[Poster 2] Coupled Density-Hazard Navigation for Evacuation Reliability in Dense Urban Informal Settlements.

Chun Song, Xuchuan Lin, Rui Cao[†].

Poster accepted at the 4th International Conference on Urban Science and Intelligence, Guangzhou, China, August 8-9, 2026. [Conference](#) / [Poster](#).

[Poster 1] A Simulation-Based Framework for Optimizing Road Networks for Disaster Evacuation in Dense Informal Urban Settlements.

Chun Song, Zhijie Zhou, Rui Cao[†].

Poster accepted at the 6th CAAI Symposium on Social Computing and Social Intelligence (SCISummit 2026), Guangzhou, China, April 17-18, 2026. [Conference Report](#) / [Poster](#).

[Oral 1] Modeling and Simulation of Urban Crowd Emergency Evacuation.

Chun Song, Yue Wang, Xuchuan Lin[†].

Oral presentation at the 3rd Academic Conference on Digital Twin and Intelligent Construction, December 15, 2024. [Presentation Certificate](#).

Intellectual Property

[Patent 2] Road-widening optimization method, system, and storage medium driven by emergency-evacuation simulation diagnosis.

Rui Cao, Chun Song, Zhijie Zhou.

Chinese invention patent, granted June 9, 2026. Patent No. ZL 2026 1 0338721.6. [Patent Certificate](#).

[Patent 1] Simulation method, system and computer storage medium of earthquake secondary fire spread.

Xuchuan Lin, Qi Wang, Jiangrong Zhong, Chun Song, Ning Yang.

Published.

[Software Copyright 1] Crowd Emergency Evacuation Simulation Software V1.0.

Chun Song, Xuchuan Lin, Jiangrong Zhong, Qi Wang, Xianan Chen, Xiaoxiang Yuan, Xiaonan Zhang.

Computer software copyright, registered November 19, 2024. Registration No. 2024SR1825682. [Certificate](#).

Skills

Programming Python, C++.

Research Physics-based simulation modeling, GIS, reinforcement learning.

Academic Services

- 2026-27 Fall Graduate Teaching Assistant, *Introduction to GeoAI* (UGOD 5300), The Hong Kong University of Science and Technology (Guangzhou).
- 2025-26 Spring Teaching Assistant for Undergraduate Course, *History of Chinese Civilization: From Antiquity to Late Imperial* (UCUG 1604), The Hong Kong University of Science and Technology (Guangzhou).