Maosu Li

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VISION

Apply state-of-art **City Information Modeling (CIM)** and **AI** to smarter **landscape management and urban planning**; Particularly focus on **disparity of visual exposure to nature and openness** to create **automatic tools and quantified evidence** for decision-making in **healthy high-rise, high-density urban development**.

EDUCATION

Ph.D. Geographic Information Science, The University of Hong Kong, 2020-Now

B.Eng. Geodesy and Geomatics Engineering, Southwest Jiaotong University, 2014-2018

RESEARCH INTERESTS

Urban Landscape and Planning, Urban Semantics, and City Information Modeling

AWARDS

2023 Research Postgraduate Student Innovation Award, Graduate School, The University of Hong Kong.

2022 Second Prize (3D modeling) and Third Prize (2D CAD), Second "Scan-to-BIM" challenge, CVPR. [Web]

2022 Talent Development Scholarship, Education Bureau of Hong Kong SAR.

2021 Esri Young Scholars Award (Hong Kong), Environmental Systems Research Institute (Esri). [Web]

2020 Outstanding Paper Award and Merit Paper Award, *25th International Symposium on Advancement of Construction Management and Real Estate*. (Li et al., 2021; Zhang et al. 2021)

PUBLICATIONS

Articles in Peer-Reviewed Journals

2023 **Li, M.**, Xue F., & Yeh, A. G. "Bi-objective analytics of 3D visual-physical nature exposures in high-rise high-density cities for landscape and urban planning." *Landscape and Urban Planning (Under review)*.

2022 **Li, M.**, Xue F., Wu, Y., & Yeh, A. G. "A room with a view: Automatic assessment of window views for high-rise high-density areas using City Information Models and deep transfer learning." *Landscape and Urban Planning*, 226, 104505.

2022 **Li, M.**, Peng, Y., Wu, Y., Xu, J., Tan, T., Guo, H., ... & Xue, F. "Role of the built environment in the recovery from COVID-19: Evidence from a GIS-based natural experiment on the city blocks in Wuhan, China." *Frontiers in Built Environment*, 7, 813399.

2022 Yuan, L., Lu, W., Xue, F., & **Li, M.** "Building feature-based machine learning regression to quantify urban material stocks: A Hong Kong study." *Journal of Industrial Ecology*, 1-13.

2020 Zhu, Q., **Li, M.**, Ding Y., Feng B., Zhang J., Cao Z., Qiu, L., & Yin, H."Multi-level semantic retrieval method for landslide disaster data." *Journal of Southwest Jiatong University*, 55 (3), 467-475 (*in Chinese*).

Conference Proceedings

2021 Laovisutthichai, V., **Li, M.***, Xue, F., Lu, W., Tam, K. L., & Yeh, A. G. "CIM-enabled quantitative view assessment in architectural design and space planning." *2021 Proceedings of the 38th International Symposium on Automation and Robotics in Construction*, 65-72. Duby, UAE: International Association for Automation and Robotics in Construction.

2021 **Li, M.***, Xue, F., Yeh, A. G., & Lu, W. "Classification of photo-realistic 3D window views in a high-density city: The case of Hong Kong." *Proceedings of the 25th International Symposium on Advancement of Construction Management and Real Estate*, 1339-1350. Wuhan: Springer, Singapore.

2021 Zhang, J., **Li, M.**, Zhang, W., Wu, Y., & Xue, F. "Prospect of architectonic grammar reconstruction from dense 3D point clouds: Historical building information modeling (HBIM) of Guangdong cultural heritages." *Proceedings of the 25th International Symposium on Advancement of Construction Management and Real Estate*, 1421-1431. Wuhan: Springer, Singapore.

Patents

2021 Yeh, A. G., **Li, M.**, & Xue, F. *System and methods for quantifying and calculating window view openness indexes*. United States patent (Filing No.) US 63/269,891.

2019 Zhu, Q., Feng, B., Chen, M., **Li, M.**, Ding, Y., & Zhu, J. *A scheduling method, device and storage medium for scene data of natural resources*. Chinese patent CN110516119A.

TALKS

2022 Winner's talk,"Floor layer-based kernels and pillars of points (FLKPP): 3D building model reconstruction." *2nd Workshop and Challenge on Computer Vision in the Built Environment for the Design, Construction, and Operation of Buildings, CVPR 2022*. New Orleans, USA. June 19. [Web]

2021 Invited talk,"Exposure to nature in high-rise high-density cities: bi-objective analytics of 3D visual-physical nature accessibility for landscape and urban planning." *HKU/PKU-SZ Joint Doctoral Colloquium on Smart Cities Analytics*. Shenzhen, China. November 27. [Web]

2021 Plenary talk,"CIM-enabled quantitative view assessment in architectural design and space planning." *38th International Symposium on Automation and Robotics in Construction*. Dubai, UAE. November 3. [Web]

2021 Winner's talk, "Save people from the concrete barriers: Integrated assessment of visual and physical accessibility to nature in 3D cities." *Webinar on "GIS Applications"*. City Gallery and Planning Department. Hong Kong SAR, China. August 26. [Web]

2021 Winner's talk, "Save people from the concrete barriers: Integrated assessment of visual and physical accessibility to nature in 3D cities." *Esri Young Scholars Award Ceremony*. Hong Kong SAR, China. July 20. [Web]

2021 Winner's talk, "Save people from the concrete barriers: Integrated assessment of visual and physical accessibility to nature in 3D cities." *Seminar on Spatial Analytics*. Urban Renewal Authority. Hong Kong SAR, China. June 29.

MEDIA COVERAGE

2022 Esri Young Scholars Award, *25th Recognition Ceremony*. CEDARS, The University of Hong Kong. [Web]

2021 PhD student wins young scholars award in geospatial sciences, *The Graduate School Newsletter* (Cover). The University of Hong Kong. [Web]

2021 A new angle on views, *The University of Hong Kong Bulletin*. [Web]

2021 How 3D spatial information brings people closer to nature, *Hong Kong Economic Journal*. [Web]