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RESEARCH AREA: Urban Analytics, Urban Comfort, GeoAI, Agentic AI



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Sijie Yang is a PhD researcher at the Urban Analytics Lab, Department of Architecture, National University of Singapore, supervised by Prof. Filip Biljecki. He holds an MSc in Space Syntax (Distinction) from University College London, UK, a Master of Computer and Information Technology from the University of Pennsylvania, US, and a Bachelor of Architecture from Chongqing University, China. His research explores the integration of emerging computational technologies with the built environment across four areas: urban intelligence (IoT- and AI-driven urban systems), urban data (multi-source analytics of city dynamics), urban comfort (human-centered perceptions of streetscapes, window views, and thermal experience), and architectural systems (spatial configuration and sustainable building solutions).

He is also developing cutting-edge methods for urban science, including foundation models for geospatial reasoning, AI agents for urban planning and discovery, world models for predictive understanding of cities, reinforcement learning for adaptive decision-making, and spatiotemporal modeling across scales. His work combines street-view and window-view imagery, perception surveys, and machine learning to support evidence-based urban design and planning.

Selected Research Publications:

Yang, S., Chong, A., Liu, P., & Biljecki, F*. (2025). Thermal Comfort in Sight: Thermal Affordance and its Visual Assessment for Sustainable Streetscape Design. *Building and Environment*.

Peng, C.†, **Yang, S.**† (Co-First Authors), Liu, A., Xiang, Y., Zhou, Z., & Biljecki, F*. (2026). City Landscape In Sight: A Crowdsourced Framework For Unlocking Urban-Scale Window View Perceptions From Real Estate Imagery. *Landscape and Urban Planning*.

Yang, S., Li, J., & Biljecki, F*. (2026). Reasoning Is All You Need For Urban Planning AI. In *AAAI 2026 (Poster) – AI for Urban Planning (AI4UP)*.

Yang, S., Law, S., Fan, Z., & Biljecki, F*. (2026). StreetRAG-Index: Concept-to-Index Retrieval-Augmented Generation Over Urban Street Networks. In *Proceedings of the 15th International Space Syntax Symposium, Johor Bahru, Malaysia*.