Di Zhang

Harbin Institute of Technology (HIT)

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SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5343489

Profile

Interdisciplinary researcher integrating AI, Computer Vision, and Building Systems for adaptive environment control. Among the top 1% of undergraduates at HIT, recognized for early research excellence and multiple awards, currently maintaining strong publication productivity during the Master's study.

Publications (Selected)

• Building Simulation (Q1, IF 4.7) — Major Revision: "An adaptive façade control strategy based on real-time evaluation of visual comfort by integrating gaze estimation and expression recognition."

• Journal of Building Engineering (Q1, IF 7.6) — Under Review: "Prima-databot: An LLM Agent for Querying Time-Series Data from Brick-based Building Systems."

• Sustainable Cities and Society (Q1, IF 10.3) — Accepted: "A Multi-objective Optimization Framework for Residential Green Space Design..."

• PV-GPT — Manuscript in Preparation

• Conferences — Accepted: CEB-ASC 2024 (Oral), CAADRIA 2026

Research Experience

Adaptive Façade Control System

Harbin Institute of Technology, 2023–2025

Developed dual deep-learning pipelines for gaze and glare analysis; built Arduino-controlled adaptive façade prototype; experimentally validated.

LLM-based Building Data Management (Prima-databot)

HKUST, 2024–2025

Multi-agent framework (Planner–Coder–Verifier) for Brick-model data automation; paper under review in Journal of Building Engineering.

LLM-based Layout Generation Agent

Tsinghua AIR, 2024

Spatial reasoning and prompt engineering for automatic architectural layout generation.

Technical Skills

Programming: Python (ML, CV, LLM), MATLAB, C++

Design Tools: Rhino, Grasshopper, Revit, Ladybug/Honeybee, Unity, Arduino

Languages: Chinese (Native), English (IELTS 7.0), French (Basic)

Research Interests

Human–Building Intelligence; Adaptive Façade Systems; LLM-Agent Frameworks; Computer Vision for Comfort Detection; Semantic Building Data; Multi-agent Reasoning.