Stella Zhujing Zhang

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EDUCATION

PhD in Civil and Environmental Engineering Sep 2022 - Present
École Polytechnique Fédérale de Lausanne (EPFL) — Lausanne, Switzerland
Thesis: "From Komorebi to Shading: View and Light Patterns Through Shading Systems with Spatial and Temporal Dynamics"

Master of Science in Building Technology Sep 2020 - May 2022
Massachusetts Institute of Technology (MIT) — Cambridge, MA, USA

Master of Architecture Sep 2016 - Feb 2020
Massachusetts Institute of Technology (MIT) — Cambridge, MA, USA

Bachelor of Science in Architecture Sep 2011 - Apr 2015
University of Michigan — Ann Arbor, MI, USA
Wallenberg Thesis Award, University Honor

EXPERIENCE

PhD Researcher **2022 - Present**
EPFL Laboratory of Integrated Performance in Design (LIPID) — Lausanne, Switzerland
- Developing spatio-temporal metrics for Komorebi light patterns and exploring their relation to human responses
- Investigating shading systems for view filtering and indoor well-being

Research Assistant **2020 - 2022**
MIT School of Architecture and Planning — Cambridge, MA, USA
- Researched neighborhood peak load and thermal comfort optimization
- Developed machine learning models as surrogates for physics-based simulations

Research Assistant **2014 - 2015**
University of Michigan — Ann Arbor, MI, USA
- Developed robotic manipulation methods for fabric-formed architectural modeling

Architect **2015 - 2016**
Myefski Architects — Evanston, IL, USA
- Contributed to residential and commercial design development

PUBLICATIONS

Zhang, Z. and Andersen, M. "A Review of the Effectiveness of Metrics for Assessing Human Responses to Biophilic Environments Involving Views, Shading, and Interior Design Elements." *Journal of Environmental Psychology*, 2025 (accepted)

Zhang, Z., Kircher, K.J., Cai, Y., Brearley, J.G., Birge, D.P., and Norford, L.K. "Mitigating peak load and heat stress under heatwaves by optimizing adjustments of fan speed and thermostat setpoint." *Journal of Building Performance Simulation*, 2023

Birge, D.P., Brearley, J., **Zhang, Z.**, and Norford, L.K. "Design of heat-resilient housing in hot-arid regions." *Energy and Buildings*, 2025

Zhang, Z. and Andersen, M. "Exploring the benefits of Komorebi light patterns: A pilot study." *CISBAT International Conference*, 2025 (accepted)

Zhang, Z. and Andersen, M. "Spatio-temporal dynamics of Komorebi light patterns." *CIE International Conference*, 2025 (accepted)

Daubmann, K.M., Foley, R., Reed, Q., and **Zhang, Z.** "RoboPinch – Robotic Manipulation of Fabric Formwork for the Creation of Plaster Architectural Models." *IASS Symposium*, 2015

KEY SKILLS

Research: Light simulation, EnergyPlus, Climate Studio, Machine learning, Statistical analysis, Image processing, Optimization, Human response assessment
Design: Rhino, Grasshopper, Digital fabrication, Adobe Creative Suite, Physical prototyping, Parametric design