

Zihao Zhang, Ph.D.

Designer · Educator · Scholar in Landscape Architecture

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Summary

Zihao Zhang studies landscape as a product of technology and labor through both theory and making, asking what machines, tools, and unseen work of care produce the environments we call natural. His work critiques the cybernetic legacy in design, which, grounded in Western conceptions of nature, treats environments as systems to be sensed, modeled, and controlled, and proposes a practice that begins where the model ends, among more-than-human agents. His current research turns to Chinese thought and landscapes as a distinct cosmology of technology, nature, and cultivation.

Higher Education

Ph.D. in the Constructed Environment, University of Virginia, School of Architecture, 2021

Dissertation: *Cybernetic Environment: Uncontrollability and Non-communication for a Future of Coexistence*

Committee: Michael Lee, Nana Last, Bradley Cantrell, Michael Gorman

Master of Landscape Architecture, University of Virginia, School of Architecture, 2016

Bachelor of Engineering in Landscape Architecture, Beijing Forestry University, 2013

Experience

Leadership

2024–2026	Director, Master of Landscape Architecture Program, Spitzer School of Architecture, CCNY
2023–2024	Interim Director, Master of Landscape Architecture Program, Spitzer School of Architecture, CCNY
2023–2025	Co-chair, ASLA-NY Climate Action Committee

Academic Appointments

2026–present	Associate Professor (with tenure; early promotion), City College of New York
2021–2026	Assistant Professor (tenure-track), City College of New York
2019–2021	Lecturer, Landscape Architecture, University of Virginia
2017–2019	Teaching Fellow, Landscape Architecture, University of Virginia
2015, 2016	Graduate Instructor, Summer Design Institute, University of Virginia

Professional Experience

2023–present	Co-founder, OSE: Office of Speculative Ecologies
2014	Landscape Design Intern, Waterstreet Studio, Charlottesville, VA
2013	Landscape Design Intern, Tsinghua Urban Planning and Design Institute, Beijing
2012	Architectural and Urban Design Intern, China Construction Engineering Design Group, Beijing

Academic and Professional Honors

June 2024	Journal of Digital Landscape Architecture Award for Scientific Excellence, Vienna
May 2023	Journal of Digital Landscape Architecture Award for Scientific Excellence, Bernburg
April 2019	Finalist, University Graduate Teaching Awards, University of Virginia
June 2017	Journal of Digital Landscape Architecture Award for Scientific Excellence, Bernburg
2014	VA-ASLA Award for Community Service

Research, Scholarship, and Creative Work

Books

(Under contract) **Zhang, Zihao**, and Shurui Zhang. *Solarpunk Landscapes: Towards Radical Sustainability*. New York: Routledge.

Zhang, Zihao. *Cybernetics and the Constructed Environment: Design Between Nature and Technology*. New York: Routledge, 2025. <https://doi.org/10.4324/9781003320852>

Book Chapters

(Forthcoming) **Zhang, Zihao**. "Do Machines Care? Posthuman Labor in the Design Professions." In *The Routledge Companion to Artificial Intelligence in Architecture*, 2nd ed., edited by Imdat As. New York: Routledge, 2027.

(Forthcoming) **Zhang, Zihao**, and Shurui Zhang. "Escaping Western Gaze: Chinese Diasporic Urbanism in Flushing." In *Becoming Chinatown: An Anthology of Interiors*, edited by Leyuan Li and Tairan An. Berlin: Jovis, 2027.

(Forthcoming) **Zhang, Zihao**, and Shurui Zhang. "One Prompt, Job Done: A Syndrome." In *Representing Landscapes: AI, Machine Vision, and Climate Futures*, edited by Nadia Amoroso. New York: Routledge, 2027.

MacWillie, Elizabeth, Shawn Rickenbacker, and **Zihao Zhang**. "Strengthening Local Ecologies of Care Through Art and Activism in Harlem, NYC." In *Activism in Design Education: Health, Equity, and Climate Action*, edited by Claire Latané and Jean Yang, 95–108. New York: Routledge, 2027. <https://doi.org/10.4324/9781003666073-10>

Zhang, Zihao, and Shurui Zhang. "Before the After: Representing Climate Actions in the Age of AI." In *Representing Landscapes: Visualizing Climate Action*, edited by Nadia Amoroso. Routledge, 2024. <https://doi.org/10.4324/9781003404798> (Peer-reviewed; Major contribution)

Cantrell, Bradley, **Zihao Zhang**, and Xun Liu. "Artificial intelligence and machine learning in landscape architecture." In *The Routledge Companion to Artificial Intelligence in Architecture*, edited by Imdat As & Prithwish Basu. Taylor & Francis, 2021. (Peer-reviewed; Equal contribution)

Gorman, Michael E., **Zihao Zhang**, et al. "Collaboration Among Apparently Incommensurable Expertises: A Case Study of Combining Expertises and Perspectives to Manage Climate Change in Coastal Virginia." In *The Third Wave in Science and Technology Studies: Future Research Directions on Expertise and Experience*, 255–72. Springer, 2019. (Peer-reviewed; Major contribution)

Journal Articles

Fernberg, Phillip, and **Zihao Zhang**. "Problematizing AI Omnipresence in Landscape Architecture." *Journal of Digital Landscape Architecture* 9 (2024): 746–55. <https://doi.org/10.14627/537752069> (Double-blind peer-reviewed)

Zhang, Zihao, et al. "Robots in the Garden: Artificial Intelligence and Adaptive Landscapes." *Journal of Digital Landscape Architecture* 8 (2023): 264–72. (Double-blind peer-reviewed; Lead author)

- Zhang, Zihao**, and Shurui Zhang. "Mapping Landscape Architects' Expertise in Climate Adaptation with Design Research Projects Over the Past Two Decades." *Landscape Architecture Frontiers* 10.2 (2022): 71–81. (Double-blind peer-reviewed; Lead author)
- Zhang, Zihao**. "Post-Digital Landscape and Post-Digital Culture." *Journal of Digital Landscape Architecture* 7 (2022): 26–35. (Double-blind peer-reviewed)
- Chen, Alexander B., Jonathan L. Goodall, T. Donna Chen, and **Zihao Zhang**. "Flood Resilience through Crowdsourced Rainfall Data Collection." *Journal of Hydrology* 609 (2022): 127724. <https://doi.org/10.1016/j.jhydrol.2022.127724> (Double-blind peer-reviewed)
- Zhang, Zihao**, and Bradley Cantrell. "Cultivated Wildness: Towards Technodiversity and Wildness in Machines." *Landscape Architecture Frontiers* 9.1 (2021): 52–65. (Peer-reviewed; Lead author)
- Zhang, Zihao**, and Xun Liu. "Control and Uncertainty: Towards a Paradigm of Prototyping." *Landscape Architecture Frontiers* 8.4 (2020): 10–25. (Double-blind peer-reviewed; Lead author)
- Zhang, Zihao**. "Cybernetic Environment: A Historical Reflection on System, Design, and Machine Intelligence." *Journal of Digital Landscape Architecture* 5 (2020). (Double-blind peer-reviewed)
- Zhang, Zihao**, and Shurui Zhang. "The Cybernetic Environment as a New Frontier." *Lunch Journal* 14 (2020): 149. (Peer-reviewed; Lead author)
- Zhang, Zihao**, and Ben Bowes. "The Future of Artificial Intelligence (AI) and Machine Learning (ML) in Landscape Design: A Case Study in Coastal Virginia, USA." *Journal of Digital Landscape Architecture* 4 (2019): 2–9. (Double-blind peer-reviewed; Lead author)
- Davies-Vollum, K. Sian, **Zihao Zhang**, and Andrews Agyekumhene. "Impacts of Lagoon Opening and Implications for Coastal Management: Case Study from Muni-Pomadze Lagoon, Ghana." *Journal of Coastal Conservation* 23.2 (2019): 293–301. <https://doi.org/10.1007/s11852-018-0658-1> (Double-blind peer-reviewed)
- Cantrell, Bradley, and **Zihao Zhang**. "A Third Intelligence." *Landscape Architecture Frontiers* 6.2 (2018): 42–51. (Peer-reviewed; Equal authorship)
- Zhang, Zihao**, Andrew Mondschein, and Mona El Khafif. "Human-Tool Assemblage: Designers in the Big Data World." *Journal of Digital Landscape Architecture* 3 (2018): 397–405. (Double-blind peer-reviewed; Lead author)
- Mondschein, Andrew, **Zihao Zhang**, and Mona El Khafif. "Community-Centered Urban Sensing: Smart Engaged Planning and Design in a Dysfunctional Urban Context." *International Journal of E-Planning Research* 8.4 (2018): 1–16. <https://doi.org/10.4018/IJEPR.2019100101> (Double-blind peer-reviewed)
- Zhang, Zihao**. "Human Factors in Responsive Landscapes: Importance and Method." *Journal of Digital Landscape Architecture* 2 (2017): 10–17. (Double-blind peer-reviewed)

Manuscripts Under Review

- Zhang, Zihao**. "Jugaad Epistemology: Community Sensing and the Knowledge That Lives in the Gap." *Landscape Architecture Frontiers*, special issue on Sustainable Landscape Architecture Supported by Pioneering Sensing Technology. Under review, 2026.

Conference Proceedings

- Chen, G.Q., N. Kashyap, **Z. Zhang**, et al. "Predicting Building Energy Efficiency with Multi-Task Learning and Classification on Multimedia Data." *International Conference on SMART MULTIMEDIA*, 2024. (Double-blind peer-reviewed)
- Zhang, Zihao**. "On Laboratories and Machines: Interfacing with Landscape Processes." *CELA 2023 Annual Conference Proceedings*. (Double-blind peer-reviewed)

Karkut, Nicholas, Alexey Kiriluk, **Zihao Zhang**, Zhigang Zhu. "Vegetation Coverage and Urban Amenity Mapping Using Computer Vision and Machine Learning." *International Conference on Image Processing and Vision Engineering*, 2023. (Double-blind peer-reviewed)

Cantrell, Bradley, and **Zihao Zhang**. "Choreographing Intelligent Agents." *107th ACSA Annual Meeting Proceedings*, 2018.

El Khafif, Mona, **Zihao Zhang**, and Andrew Mondschein. "Mapping the Nocturnal City: Community-Centered Urban Sensing, Charlottesville, VA." *City Street3 Conference Proceedings*, 2018: 73–85.

Book Reviews

Zhang, Zihao. "The Dawn of Everything by David Graeber and David Wengrow." *Journal of Landscape Architecture* 2–2024: 88–89. <https://doi.org/10.1080/18626033.2024.2466341>

Essays and Op-eds

Zhang, Shurui, and **Zihao Zhang**. "Resilient Schist: Crafting Harlem's Corridor of Art, Culture, and Ecology." *New York Amsterdam News*, January 30, 2025.

Zhang, Zihao. "AI in Landscape Architecture: Beyond the Myth of AI-Human Rivalry." *Landezine*, January 6, 2025. <https://landezine.com/ai-in-landscape-architecture-beyond-the-myth-of-ai-human-rivalry/>

Selected Presentations and Talks

2025

- "Do Machines Care? Another Solarpunk Manifesto." University of Massachusetts Amherst. October 2, 2025
- Invited Panelist. Digital Landscape Architecture Conference, Dessau (virtual). June 4, 2025
- "Do Machines Care?" Beyond Maintenance Colloquium, ETH Zürich. February 28, 2025

2024

- Invited lecture. University of Colorado Boulder. September 10, 2024
- Invited lecture. "Of Bicycles and Artificial Intelligence." CCNY/CWE. March 25, 2024
- Invited lecture. University of Pennsylvania Stuart Weitzman School of Design. February 28, 2024
- Poster. "Urban Polder Landscape in East Harlem, NYC." Transportation Research Board 103rd Annual Meeting, Washington, DC. January 10, 2024

2023

- Invited panelist. ASLA 2023 Annual Conference, Minneapolis. October 29, 2023
- Invited webinar. Landscape Architecture Foundation. August 29, 2023 (1000+ live attendees, LAF record)
- Invited panelist. Bi-City Biennale of Urbanism\Architecture (UABB), Shenzhen. January 7, 2023

2017–2022 (selected)

- "Post-Digital Landscape and Post-Digital Culture." Digital Landscape Architecture Conference, Harvard GSD, 2022
- "Cybernetic Environment." Digital Landscape Architecture Conference (virtual), 2020
- Invited respondent for N. Katherine Hayles' lecture, UVA, 2020
- Digital Landscape Architecture Conferences: Dessau 2019, Freising 2018, Bernburg 2017

Other Scholarly and Creative Work

2025 **Hydroponics!**, NYC. Designer

2024–2027 **Co-Map: Participatory Mapping Application and Thresholds of Winter**. Participatory mapping tool and climate data visualization for the DOE Climate Lighthouse, NYC. Designer.
<https://resiliencelighthouse.cargo.site/thresholds-of-winter>

2023–present	Harlem Lane Activation , Harlem, NYC. Designer and academic partner, with West Harlem Art Fund, J. Max Bond Center for Urban Futures, and OSE. Includes A Hole in the Park (2025), land art for the Harlem Sculpture Gardens
2023–present	Laboratory for Living Systems , NYC. Co-director
2022–2025	Ecological Laboratory for Urban Agriculture (ELUA) , NYC. Research lead, designer, construction lead. https://ce-lab.one/ELUA
2020	Ostenda illuminata . Public installation, Charlottesville, VA. Research associate: conceptual design, software development, and early prototyping (with Mona El Khafif, Andrew Mondschein, Eric Field)
2018	CyborgBloom . Digital Art Installation, Charlottesville, VA
2018	" Forming Atmosphere ". Landscape design research featured in <i>Codify</i> (Routledge)
2017–present	Responsive Landscapes . Custom sensors, physical computing, and responsive prototypes as design instruments

Public Scholarship

2024–present	Chubby Cat Happy Chat Podcast . Co-host with Shurui Zhang. Mandarin Chinese podcast on design, philosophy, art, and technology. https://chubbycathappychat.podbean.com/
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Grants, Fellowships, and Awards

Grants

2024–2027	DOE Climate Lighthouse . Co-I. \$1,000,000.
2024–2025	Architectural League Independent Projects Grant . PI (with Shurui Zhang). \$10,000.
2024	CUNY GRTI Round 24 . PI. \$9,538.67.
2023–2024	PSC-CUNY Research Award, Robots in the Garden . PI. \$6,000. <i>(ended)</i>
2022–2025	CCNY Energizing Equity . Co-PI. \$600,000. <i>(ended)</i>
2022–2023	CUNY Interdisciplinary Research Grant, Synergistic Agriculture . PI. \$40,000. <i>(ended)</i>
2022–2023	PSC-CUNY Research Award, Rooftop Thermodynamics . PI. \$6,000. <i>(ended)</i>
2022	Spitzer Faculty Book Project Award . \$4,000.

Fellowships

2023–2024	CUNY Career Success Fellow
2022–2023	Deans' Equity and Inclusion Initiative (DEII) Fellow, Dumbarton Oaks
2020–2021	Graduate Teaching Fellow (\$24,000), University of Virginia
2017–2018	Digital Art Fellow, University of Virginia
2016–2019	PhD Scholarship with full tuition + stipend (\$25,000/yr), University of Virginia

Professional Activities

Editorial Boards and Committees

2025–present	Executive Editorial Board, <i>Landscape Architecture Frontiers</i>
2024–present	Advisory Board, West Harlem Art Fund
2023–2026	Board member (ex officio), ASLA-NY

2023–present	Editorial Board, <i>Journal of Digital Landscape Architecture</i>
2023–2024	Editorial Board, <i>PLOS ONE</i>
2022–2023	Mentorship Program Administrator, Digital Landscape Architecture Conference
2021	Planning committee, 2022 Digital Landscape Architecture Conference, Harvard GSD
2018–2021	Member, Human-Machine Intelligence Research Group, UVA Department of Philosophy

Peer Review

Manuscript and abstract reviewer, 2018–present: *Landscape Architecture Frontiers* (2023–2026); *Journal of Digital Landscape Architecture* (2023–2025); *The Plan Journal* (2023, 2025); *PLOS ONE* (2023); *Technology|Architecture+Design* (2018, 2021); *Buildings, Applied Sciences, Processes* (2023); *Sustainability* (2022, 2023); *Mathematics* (2021); *Landscape Research Record* (2020); CELA Annual Conference (2023).

Funding Proposal Reviewer

2025	BARD, US-Israel Agricultural Research & Development Fund
2024	Austrian Science Fund
2023	European Commission's European Research Council

Guest Critic and Review Panels

2024, 2025	University of Pennsylvania, Stuart Weitzman School of Design
2025	University of Virginia, School of Architecture
2024	Juror, Maryland ASLA Chesapeake Bay Climate Action Challenge
2024	Pratt Institute
2021–present	City College of New York, design studios and theses
2016–2021	University of Virginia, School of Architecture, architecture and landscape studios

Consulting

2023–2025	Landscape consultant, Masaryk Towers (Mitchell-Lama affordable housing), Lower East Side, NYC
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Membership

2021–present	American Society of Landscape Architects, New York Chapter
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Instructional Activities

City College of New York

Fall 2026	LAAR 61400, Representation and Computation I (3 cr)
Spring 2026	LAAR 66100, Research Studio 2, <i>Designing Urban Pedogenesis: Soil Infrastructures in NYC</i> (Co-instructor with Luke Harris) (6 cr)
Spring 2026	LAAR 65500, Research Workshop (3 cr)
Fall 2025	LAAR 63100/ARCH 51000, <i>Solarpunk: Scripting Flushing Bay</i> (6 cr)
Fall 2024	LAAR 63100/65100, <i>Technological Sublime in a Watery City</i> (6 cr)
Spring 2024	SUS 7501, <i>Climate Justice in NYC</i> (1 cr)
Fall 2023	LAAR 63100/65100, <i>Technologic</i> (6 cr)
Spring 2023	ARCH/LAAR Topics, <i>Machines and Ecologies</i> (3 cr)

Fall 2022	LAAR 61100, <i>Contaminated Diversity</i> (6 cr)
Spring 2022	LAAR 62100, <i>Cultivated Wildness: Decentralize Central Park</i> (6 cr)
Fall 2021	LAAR 61100, <i>Cultivated Wildness: Decentralize Central Park</i> (6 cr)
Fall 2021	LAAR 61400, Digital and Traditional Drawing (3 cr)

University of Virginia

Fall 2020	SARC/LAR6710, Design Computation (Co-instructor)
Fall 2019	LAR6010, MLA Foundation Studio (Section instructor)
Fall 2019	LAR6710, Design Computation 1
Spring 2019	LAR7020, Foundation Studio 4 (Teaching Fellow)
Spring 2018	LAR8020, Landscape Manifesto Studio (Teaching Fellow)

Workshops

Summer 2020	Instructor, Atoms Atelier Summer Workshop on Responsive Landscapes
2018	Instructor, "AutoCAD for Planners" workshop series, UVA School of Architecture

Advising and Mentoring

2024–present	PhD mentor, Gong Qi Chen (Computer Science, CUNY Graduate Center), computer vision and the urban environment
2023–2025	Faculty advisor, SUS 7501 capstone projects: <i>Green Roofs in New York City</i> ; <i>Climate Justice in New York City</i>
2023	ORCA faculty advisor, green roof technologies. Students: Mouhamadou Dieng, Gildalis Torres
2022–2023	Capstone advisor, Grove School of Engineering: reinforcement learning for polyculture gardens, L-system plant morphology, computer vision for streetscapes, and building energy efficiency. Students: Gong Qi Chen, Juan Guerrero, Nicholas Karkut, Alexey Kiriluk
2022	ORCA faculty advisor, robots and green roofs. Students: Kaitlin Labatt, Nicole Girdo, Aparna Ramanathan
2021	Capstone mentor, <i>Outreach3D</i> community website. Students: Siddharth Rane, Akash Ahuja, Jennifer Caceres
2017–2020	USOAR mentor, University of Virginia. Mentee: Gabriel I. Castro-Andrade (BS Arch '21 UVA; MArch '24 MIT)

University and Departmental Service

Committees

2025–present	Executive Committee, Sustainability in the Urban Environment Master Program
2023–2026	Personnel and Budget; Curriculum; Graduate Programs Steering Committees, Dept. of Architecture
2022–2023	Course and Standing Committee, Dept. of Architecture
2022–2023	Faculty Secretary, Dept. of Architecture
2021–present	Graduate Program Admission Committee, Dept. of Architecture

Search Committees

2026–present	Chair, search committee for Associate/Full Professor of Architecture and Urban AI, Dept. of Architecture
2025–2026	Member, search committees for Lecturer, Sustainability MUE Program; Lab Technician, Robotics Lab; Assistant Professor of LA
2024	Member, search committee for Associate/Full Professor and Director of MLA Program
2022–2023	Member, search committee for Assistant Director, Bond Center for Urban Futures

Community Outreach

2024–present	West Harlem Art Fund and Brotherhood Sister Sol, climate resilience advocacy
2023	ELUA and SSA rooftop garden tours; partnerships with NYC Composting Project and CCNY Rangel Initiative
2021–2022	GrowNYC and NYC-GreenThumb community outreach as part of Synergistic Agriculture project
2018	Community-centered Urban Sensing outreach, Charlottesville, VA

Graduate Research Experience

University of Virginia, School of Architecture

2018	MainStreet21 – Research Coordination Network (PI: Ila Berman, NSF)
2015–2016	Winneba Lagoon project, Ghana (PI: Nancy Takahashi)
2013–2016	Lhasa Virtual Reality Project (PI: David Germano)
2013–2014	James River Viewshed Studies (PI: Guoping Huang)

University of Virginia, School of Engineering

2018–2021	dMIST – Data-driven Management for Interdependent Stormwater and Transportation Systems (PI: Jonathan Goodall, NSF)
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