

YANG, YUXIN GISP

I am a computational design engineer affiliated with ASLA, GISCI, and IEEE.

I work on sensors, fluid nature, and agent twin.

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EDUCATION

Harvard University, Graduate School of Design

- Master of Landscape Architecture | May 2022 | Class Representative
- Cross-registration at MIT Media Lab and EECS

University of Pennsylvania, Penn Engineering

- Master of Computer and Information Technology (MCIT), online part-time | In progress

Southeast University (China), School of Architecture

- Bachelor of Engineering in Landscape Architecture | June 2020 | Class Marshal; "Most Influential Undergraduate Award" Nominee; "Outstanding Student Leader Award"; "Tongxi Enterprise Scholarship"; "Principal Scholarship"
- Iowa State University, College of Design – Urban Design Exchange | Chinese Government Scholarship; Dean's List

PROFESSIONAL EXPERIENCE

Senior Computational Strategist, Sherwood Design Engineers (April 2023–October 2026)

- I pioneered Sherwood's computational practice, building on the design and planning practice established by Associate Principal [Adam Mekies](#). As a computational design engineer, I led a four-person team comprising an IoT specialist, a computational geometry and BIM specialist, and a designer. We collaborated closely with the company's water, wastewater, and hydrology and hydraulics (H&H) teams.
- The practice grew by integrating computational modules into water resources engineering and infrastructure planning, notably for [NEOM's THE LINE / Hidden Marina](#). Embedding technology in infrastructure and nature-forward projects is challenging. Our ambition was to make it central to the design narrative and project life cycle. In [Nashville \(undisclosed\)](#), we let fluid speak through design, construction, and long-term operation and maintenance.
- Our key approaches include:
 - (1) Implementing a simulation–physical intervention–post-simulation workflow in the design-engineering process, using H&H simulations and geospatial analytics to inform physical interventions and evaluate their performance.
 - (2) Designing complex computational geometries by translating and synthesizing systems engineering principles and landscape design intent.
 - (3) Problem-solving across scales—from abstracting how watershed infrastructure fits a site to resolving construction details for landforms, drainage, rock, aggregates, and built components.
 - (4) Developing sensor-network architectures and technical specifications.
- Earlier roles: Computational Strategist, Computational Designer III, Designer
- Reference: Adam Mekies

Urban Designer, Interboro Partners (September 2022–March 2023)

- Based in Detroit, I worked on two neighborhood frameworks, combining planning studies, land-bank data analysis, and community engagement. The frameworks emphasized revitalization programming, green-infrastructure strategies for vacant land, and recommendations for grant-supported implementation.
- Reference: Andrew Wald

Landscape Assistant, SWA Group (October 2019, Summer 2020, Winter 2020)

- The studio's portfolio reimagines post-industrial sites as large-scale public landscapes. I supported major design competitions and a reclamation project planned for construction, all involving environmental restoration.
- Reference: Peichen Hao

Landscape Assistant, Zhuyufan Studio (Summer 2019)

- At the time, the studio focused on landscapes for real-estate developments, garden design competitions, and cultural parks. I developed Grasshopper scripts to explore contemporary interpretations of mountains and water.
- Reference: Yufan Zhu

SELECTED PROFESSIONAL PROJECTS

Nashville (Undisclosed) | Sherwood Design Engineers — Computation and Landscape System Lead | 80 acres

NEOM's Hidden Marina (Work Confidential) | [public overview](#) | Sherwood Design Engineers — Computation and Landscape System Engineer | 2.5 km development

NEOM's Landscapes of the Line (LoTL) - Forestation Study (Work Confidential) | [public overview](#) | Sherwood Design Engineers — Computation and Landscape System Engineer | 14,000 km²

Khaybar Region Masterplan | [project](#) | Sherwood Engineers — Landscape System Engineer | 656 km² of volcanic terrain

Midwest-Tireman Neighborhood Framework, Detroit (also known as the "Old West Side" plan) | [project](#) | Interboro Partners — Urban Designer | 2 km²

Xuhui Waterfront Park Competition, Shanghai | SWA Group — Landscape Assistant | The competition entry did not win but led to landscape design work on Westbund Central Parcel F, a 60,000 m² commercial development near Xuhui Waterfront Park.

Xingfa Cement Plant Renovation & Quarry Park, Beijing | [project](#) | SWA Group — Landscape Assistant | 107 hectares

Central Park Competition, Dongguan | [project](#) | SWA Group — Landscape Assistant | 22 hectares | ASLA Northern California Chapter Award of Merit — Analysis and Planning

SELECTED RESEARCH

Edge: IoT Shoreline: Wave, Weave (2022–Present)

- Geotextile tubes used as submerged breakwaters are a form of climate-adaptive shoreline infrastructure. The project proposed integrating weavable fiber-optic sensors into geotextile tubes to monitor deformation associated with waves and changing soil and material conditions, enabling an IoT shoreline.

- [poster](#) | [project](#)

Field: Fluid Nature (2019–Present)

- Fluid Nature starts with process-driven landscape thinking. Water flows downhill, activating ecological processes along its path while sometimes creating catastrophic challenges. Fluid Nature seeks to make it easier to create hydraulic interventions that appear as living creatures, function as living systems, and require little maintenance. Where conventional simulation and design tools fall short, Fluid Nature develops customized scripts and computational methods.

- representative projects: Nashville (confidential) | NEOM's Hidden Marina

System: EcoCircuit AI and Systems Thinking Agent Twin (2023–Present)

- The research emerged from an experiment in “designing a net-positive city with AI.” In complex design, engineering, and planning collaborations, the most creative work often coincides with the most demanding coordination and decision-making efforts. EcoCircuit AI helps users move from text to integrated environmental systems. Ongoing research seeks real-world case studies to test and advance its systems-reasoning capabilities.

- [paper](#) | [research note](#) | [webapp](#)

PUBLICATIONS & AWARDS

Yang, Y., & Mekies, A. (2024). EcoCircuit, a Text2Flow application: Deciphering environmental metabolism through staging and collaborating with language models. *Journal of Digital Landscape Architecture*, 9, 79–96. <https://doi.org/10.14627/537752009>

1st Place — DLA Poster Competition | 2022 | “IoT Shoreline”

WLA Awards Shortlist & Editorial Feature | 2021 | “Migration Is Beautiful — Biophilic Boulevard”

REVIEWS & TEACHING

Guest Critic, Final Review, Columbia GSAPP | Summer 2023 | Digital Techniques for Urban Designers (DTEQ)

Teaching Assistant, Harvard University | Fall 2021 | Landscape Architecture Core Studio III

Teaching Assistant, University of Pennsylvania | Spring 2026 | Wireless Communications & IoT

TALKS

“Systems Thinking Data Language” Data Visualization New York Meetup 2025

“Think Systems, Think Integrated Sustainable Design with EcoCircuitAI” | [program](#) | [recording](#) | [abstract](#) | AI and Cities 2025

“IoT Shoreline” BSLA Climate Action Summit 2022

SKILLS

Embedded Systems & Networking | Familiar: Analog circuit design (op-amps, band-pass filters), fiber-optic sensing, environmental sensor specifications, Docker, ns-3

Programming & Full-Stack Development | Proficient: Python, Java, JavaScript, C++, Node.js, AWS, database design, D3.js

Hydrologic & Hydraulic Simulation | Familiar: HEC-RAS, Delft3D

Geospatial Analytics | Proficient: ArcGIS, ArcPy, Familiar: ENVI

Parametric & Procedural Modeling | Proficient: Rhino, Grasshopper; Familiar: Houdini

Fabrication & Prototyping | Proficient: Laser cutting, 3D printing