

Yanyi Liu

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Education

- Massachusetts Institute of Technology**, Cambridge, MA Sep 2023 - Present
- Master of Architecture degree candidate with Departmental Fellowship and Stipend.
 - Related Coursework in Computational Design and Optimization, Architecture Enclosures.
- Swarthmore College**, Swarthmore, PA Sep 2018 - Dec 2022
- Bachelor of Arts degree, double major in Mathematics and Art History. **GPA 3.91/4.00**
 - Set Designer of the annual senior showcase. Department Scholarship. Social Impact Scholarship.

Professional Experience

- Architectural Design Intern**, 3XN Architects, Copenhagen, Denmark Mar - Aug 2025
Project: P57 Tower A, Zuidas, Amsterdam, Netherlands
- Contributed to the retrofit design of a landmark office tower within a large-scale masterplan transforming former bank headquarters into mixed-use developments, redefining its identity within the Zuidas skyline.
 - Advanced massing and facade studies that shaped the tower's architectural expression, integrating strategies of transparency, proportion, and materiality, and presented renderings to clients biweekly.
 - Produced floorplate design options optimizing structure reuse, core layout, and amenity spaces under strict planning constraints, through multiple drawing sets including detailed plans of each floor.
 - Designed typical office floor plans, analyzing capacity, tenant configurations, and spatial organization, Assisted in ground and podium floor design, incorporating heritage elements including existing ramps and atriums, improving public circulation and access to outdoor terraces.
 - Collaborated with GXN to propose facade reuse and performance strategies, preserving existing cladding on the south facade while reducing heat gain and developing shading and solar strategies.
 - Prepared presentation materials including diagrams, plan and section drawing sets, and rendering that informed client decisions and design direction in weekly meetings with developers.
- Architectural Design and Sustainability Intern**, ZGF Architects, Washington DC, USA Jun - Aug 2024
Project: Johns Hopkins University Data Science and AI Facility, Baltimore, MD
- Conducted multi-objective optimization for the building performance of a 500,000 square feet research facility in Baltimore, Maryland, improved user experience and operational carbon by 50%.
 - Optimized the geometries of façade shading and atrium skylight shading device through automated iterations of daylight, glare, and energy analysis with climate studio, ladybug, and grasshopper.
 - Created a firm-wide initiative to integrate AIA Framework for Design Excellence into design workflow, converting the framework into quantifiable goals and to-do lists by design phases.

Design Experience

- Projection Designer**, The 2025 Fall Theater Arts Production, MIT, MA Sep 2025 - Present
- Developing video footage integrating AI-generated 3D worlds and 2D panoramic images for a live projection onto a 360 degree screen, experimenting with camera movement, framing, and distortion.
 - Operating a film camera capturing live performances on stage, creating close-ups, elongated compositions, and dynamic camera movements to adapt to the live, panoramic projections.
- Prototype Designer**, MITDesignX, MIT, MA Jan - Sep 2024
- Developed prototypes and design studies for a self-assembled shelter system made with modular and scalable bamboo structures for internally displaced persons in Myanmar.
 - Interviewed 12 industry professionals specialized in reconstruction in conflicted zones, community engaged design, bamboo and locally sourced material construction, and found 2 long-term mentors.
- Set Designer**, Fall 2022 Senior Company, Swarthmore College, PA Sep - Dec 2022
- Produced preliminary design models and final drafting packages including ground plans, sections, elevations, and painted elevations, and submitted for construction.
 - Constructed painted floor, walls, and ceiling pieces in collaboration with set builder and scenic painter.
 - Advised light design, props, and practicals rentals and purchases during set construction.

Skills and Interests

Language: English (Bilingual Proficiency), Mandarin (Native).

Computer skills: Rhino, Grasshopper, Revit, Enscape, V-Ray, Adobe Suite (Indesign, Photoshop, Illustrator), AutoCAD, SketchUp, QGIS, Climate Studio, Vectorworks, Qlab.

Interests: Set Design, Projection design, Art History.