

Margaret Hillengas

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SUMMARY

Architectural professional with expertise in reality capture, 3D modeling, and field project coordination. Skilled in managing on-site operations for complex projects, including heritage preservation and cutting-edge research initiatives. Thrives in team-oriented environments, fostering collaboration to deliver high-quality data and visualization solutions. Proficient in leveraging advanced technologies such as LiDAR, photogrammetry, and immersive visualization tools to streamline workflows and enhance design outcomes. Dedicated to integrating innovative field practices into architectural research and interdisciplinary projects.

EDUCATION

- May 2024 **M.Arch**
Taubman College, University of Michigan.
- May 2021 **B.A., Studio Art**
College of Fine and Applied Arts, University of Illinois at Urbana-Champaign
- May 2021 **B.A., History**
College of Liberal Arts and Sciences, University of Illinois at Urbana-Champaign

EXPERIENCE

- Jan 2025 - Present **Lecturer in Architecture**
Taubman College of Architecture and Urban Planning - University of Michigan
 - UG4 Wallenberg Studio Fractal Systems
- Aug 2024 - Present **Scan-Lab Manager**
University of Michigan - Co-PI Dawn Gilpin and Robert Adams
 - Manage the day-to-day operations of the EIPC Scan-Lab, ensuring an organized, efficient workspace that supports cutting-edge research and education.
 - Oversee the procurement, maintenance, and operation of advanced scanning equipment, including LiDAR scanners, photogrammetry booths, and drones, along with requisite software platforms.
 - Provide technical expertise to faculty and staff, guiding the acquisition and processing of reality capture data for academic and research purposes.
 - Coordinate the visualization of complex projects using a multi-projector array, facilitating immersive and collaborative exploration of data and designs.
 - Develop workflows and train users in best practices for leveraging lab resources, enhancing the lab's role as a hub for interdisciplinary innovation.
- March 2024 - Aug 2024 **Reality Capture Lead**
University of Michigan Humanities Collaboratory and the Instituto Nacional de Antropología e Historia
 - Coordinating LiDAR scanning and photogrammetry at UNESCO site Teotihuacan, Mexico, in collaboration with the Instituto Nacional de Antropología e Historia (INAH), ensuring accurate and high-quality data capture for historical preservation and scientific analysis.
 - Led cross-functional team in executing field operations, including on-site scanning and data processing
 - Leading team in off-site data processing and evaluation and developing workflows to reduce project delivery time by 20%.
- Jan 10, 2024 - May 2024 **Graduate Studio Assistant**
University of Michigan Taubman College - Dawn Gilpin

Served as assistant instructor for Wallenberg Capstone Studio.
- Jan 8, 2024 - Apr 30, 2024 **3D XR Fellow**
University of Michigan Center for Academic Innovation

Designed and developed 3D environments for use in the University of Michigan's Massive Open Online Courses, integrating reality capture techniques to create immersive learning experiences.
- Nov 2023 - Jan 2024 **AR Developer**
PLY+ Architects

Developed AR experiences using Adobe Aero for the Museum of Contemporary Art Detroit's (MOCAD) proposed renovation.
- Sept 2023/ Nov 2024 **Photogrammetry Workshop Director**
University of Michigan Taubman College

Developed workshop content and instructed students on photogrammetry collection techniques and complete processing steps.
- Jan 2022 - Present **Research Assistant**
University of Michigan Taubman College - Dawn Gilpin and Robert Adams

Co-directed team of students utilizing extended reality (XR) and LiDAR scanning to design innovative models for architectural education, contributing to the advancement of XR applications in the academic setting.
- Aug 2022 - Jun 2023 **Research Assistant**
University of Michigan Taubman College - Cyrus Peñarroyo, Laura Peterson, and Peter Yi

Served as design lead for a grant to assist people who've acquired houses through the Detroit Land Bank Authority. Developed and led workshop on framing techniques for houses with extensive structural damage. Produced project graphic post workshop.

HONORS AND AWARDS

- May 2024 **Graduate Thesis Award: Sensebility for Territorial Studies**
University of Michigan Taubman College
Group project with Axel Olson. Instructor: Alina Nazmeeva
- Spring 2025 **Work Published, Dimensions 38**
University of Michigan Taubman College
Group project with Axel Olson. Instructor: Alina Nazmeeva
- May 2023 **Work Displayed, Medical Innovations in Extended Reality Industry Meeting**
University of Michigan
Group project with Qilmeg Doudatcz and Einas Elamin. Instructors: Jonathan Rule and Michelle Aebersold
- Apr 2023 **XR Student Showcase: Award for Best Use of XR for Research**
University of Michigan - CareSpace XR
Group project with Qilmeg Doudatcz and Einas Elamin. Instructors: Jonathan Rule and Michelle Aebersold
- Mar 2023 **Work Displayed, Taubman Visualization Lab Trade Show**
University of Michigan Taubman College
VR development and point cloud visualization for Empathy in Point Clouds. Instructors: Dawn Gilpin and Robert Adams
- Apr 2023 **Works Selected, Annual Student Show**
University of Michigan Taubman College
Terra Commutatae: Land of Change. Instructor: Dawn Gilpin and Open Source Cinema. Instructor: Laura Peterson
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SKILLS

Rhino	FARO Scene	Adobe Photoshop	Microsoft Office
Autodesk Revit	Reality Capture	Adobe Illustrator	SketchUp
Blender	FARO Freestyle2 and ARM	Adobe Substance 3D Painter	Autodesk Inventor
V-Ray	Unreal Engine	Adobe Premier Pro	Project planning
Enscape	Python	Adobe After Effects	Efficient communicator
Grasshopper	Z-Brush	Adobe Aero	Thrives in team environment
Twinmotion		Adobe Lightroom	

Certifications

- Remote Pilot Certificate (Part 107)
- Issued by the Federal Aviation Administration (FAA)
- FARO Focus Scanner User Certified