Fall 2025 SPDC Research Seminars

November 19, 2025
3:30 - 4:30 P.M.
Human Ecology Building ROOM HE315

Mohammad Hoonejani is a PhD student in Construction Management at Michigan State University with a background in architecture and building science. His research explores the intersection of artificial intelligence, BIM, and circular economy principles to advance sustainable construction practices. He is particularly focused on deconstruction, material reuse, and the development of digital tools for surveying and Scan-to-BIM technologies that enable more efficient workflows. Drawing on both academic and industry experience, including work as a VDC intern at Granger Construction, he aims to bridge design and construction with AI-driven solutions that promote sustainability, resource efficiency, and resilient urban development.

Mohammad Rajaian Hoonejani

Research Approaches for Point Cloud Data Labeling in Circular Economy

This seminar explores strategies for classifying building components from point clouds to enable circular economy practices in construction. It covers design science approaches for developing new labeling workflows, benchmarking studies comparing manual, semi-automated, and AI-driven methods, and case studies applying these workflows to real demolition projects. Participants will learn how labeled data supports material recovery, waste reduction, and carbon savings, and how simulation can quantify system-wide impacts. The session highlights methodological frameworks, best practices, and research directions, bridging technical innovation with sustainability outcomes to support industry adoption of Scan-to-BIM and material reuse workflows.

for any question, please contact dz@msu.edu