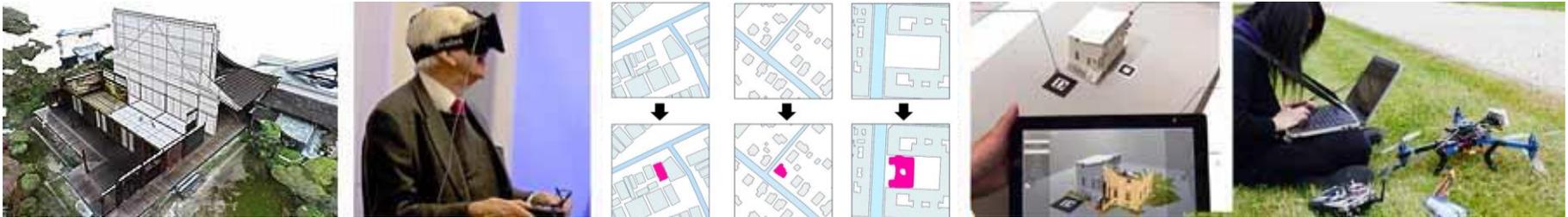


Instructors: Prof. Takehiko Nagakura (takehiko@mit.edu), Daniel Tsai and weekly guests

TA: Charles Wu (crazywu@mit.edu)

Learning from Design Heritage - *Research Workshop on Data-driven Methods* -



First class meeting: 11am, Monday, January 31, Room 8-119

Homepage: <http://cat2.mit.edu/4.570>

This class investigates recent technologies that help studying “design heritage”, spatial designs that surround our lives. Design heritage broadly includes architecture, city and landscape; the built, demolished, and planned; and culturally important as well as the banal ones. We will look at various data-driven methods relevant to learn them, such as photogrammetry, image/video feature detection, machine learning, physiological sensors, natural language processing, augmented and virtual reality, and gamification. By examining how to collect data, how to process the raw data into forms useful for evaluation, and how to interpret and apply the findings, the students build a foundation for research projects bettering our understanding of the design heritage around us.

Each week during the first half of the class, the class will invite a guest speaker, conduct a short hands-on exercise on a data processing tool, and read relevant literature from previous research projects in design heritage. The second half is run in a workshop format with desk critiques, where students are expected to design and develop a small research project individually or in a group. There is no requirement for computational skills for this class, although familiarity with some scripting language is an advantage.

* Unlike the previous interactions of this class focused on a specific site and prototyping of its visual representation, 2022 class will not include a field trip component due to the pandemic constraints.

* Course numbers: [4.550 for Undergrad](#), [4.570 for Grad students](#).

* Grading: 25% class participation, 35% weekly assignments, 40% mid-term + final review,

* Regular meetings: Monday 11am-2pm (Rm 8-119), Tuesday 7-8:30pm (Rm 5-216)