

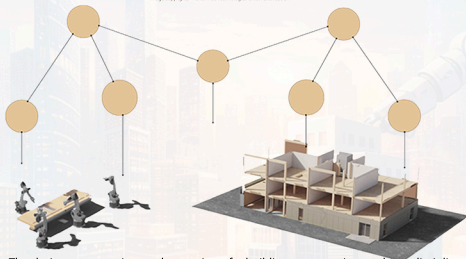
# AI Lab: Knowledge Representation for Buildings

Prof. Dr. Steffen Staab, Dr. Daniel Hernández

Department for Analytic Computing (AC), Institute for Artificial Intelligence, and

Prof. Dr. Thomas Wortmann & Research Group Leader Dielza Elshani, M. Sc., B. Arch

Institute for Computational Design and Construction, Department for Computing in Architecture (ICD/CA)



**Topic:** The design, construction, and operation of a building comprises multiple disciplines and processes that must be performed simultaneously during the lifecycle of a building. Giving digital objects semantics allows integrating knowledge across these different disciplines, and ensuring a correct alignment. In this course, you will develop tools that use Knowledge Graphs and Semantic Web technologies to facilitate collaborative design. The techniques you will learn in this course, do not only apply to the building industry, but to every field requiring data integration and collaborative design

**Target Students:** Master's students interested in learning and applying knowledge graphs and semantic web technologies within the Architecture, Engineering, and Construction (AEC) industry. The course accepts students from both Architecture (Faculty 1) and Computer Science (Faculty 5).

**Procedure:** The course is structured as a weekly, in-person lab seminar combining short lectures with hands-on group work. Students work in interdisciplinary groups throughout the semester, completing weekly assignments that progressively build toward a coherent semantic building model or application. Regular feedback is provided during the sessions. The course concludes with a final group project, presented in a public demo and poster session.

## Are you interested?

For any queries, send us an email:

[dielza.elshani@icd.uni-stuttgart.de](mailto:dielza.elshani@icd.uni-stuttgart.de) or [daniel.hernandez@ki.uni-stuttgart.de](mailto:daniel.hernandez@ki.uni-stuttgart.de)

