## Knowledge Representation for Buildings

## Institute for Artificial Intelligence (KI):

-Department for Analytic Computing (AC): Prof. Dr. Steffen Staab, Dr. Daniel Hernández, PhD Candidate: Fathya Zemmouri -Department for Machine Learning for Simulation Science: Prof. Dr. Mathias Niepert, PhD Candidate: Tanja Bien

## Institute for Computational Design and Construction (ICD/CA):

Department for Computing in Architecture: Tenure-Track Prof. Dr. Thomas Wortmann, PhD Candidate: Diellza Elshani

Topic: 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 correct alignment. In this course, you will develop tools that use Knowledge Graphs, Semantic Web technologies, and Machine Learning to facilitate collaborative design. These techniques, which you will learn throughout the course, do not only apply to the building industry, but also to every field requiring data integration and collaborative design.

> Target Students: Bachelor or master students who want to learn and practice Semantic Digital Twins, Semantic Web technologies, and collaborative design in the building industry.

> Procedure: Students will form groups to develop components of an application for collaborative design in building industry. The course will have weekly sessions to work in group, present their progress, and integrate components with other groups. Groups will present their work in a final demo and poster session, an will submit a final four pages report.

## Are you interested?

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