

Invitation to the Oral Examination – Department CE

For the occasion of his examination for a Doctoral Degree,
Adam, Michael M.Sc.

will present his dissertation entitled/on

“Digital Twinning of Indoor Environments: Automated Data Capture, Efficient Labeling, Object Detection and Visualization”

on **Wednesday, April 29th, 2026, at 13:00 p.m.**

Attendance to the presentation is open to the public. The presentation will be in English.

The candidate, all members of the Examination Committee, and authorized examiners of the TUM School of CIT are invited to the presentation and subsequent oral examination.

The presentation and subsequent examination will take in presence at Theresienstr.90, building N4, 2. floor, Room N2408, 80333 München

Examination committee:

Chair: Prof. Dr. Antonia Wachter-Zeh

First Examiner: Prof. Dr. Eckehard Steinbach

Second Examiner: Prof. Dr. rer. nat. habil. Rudolph Triebel

Munich, 26th of March 2026

Mailing list:

Members of the examination committee

Doctoral candidate

Abstract:

This dissertation investigates several aspects of digital twinning. It introduces an automated process for generating geometric scans. Further, (semi supervised) 2D and 3D labeling is discussed, while a new dataset is introduced. On the basis of a novel 3D object matching metric, a heuristic multi-modal detection pipeline is developed. Finally, a deep learning enhanced point cloud rendering technique is shown. All of these contributions were validated with real world data and showed their feasibility in real applications.