Invitation to the Oral Examination – Department CE

For the occasion of his examination for a Doctoral Degree,

Mr. Martin Bernd Sundermeyer

will present his dissertation entitled

Scalable Learning of 6-DoF Object and Robotic Grasp Poses

on **06.11.2024** at **16:00 h**

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 place in a hybrid manner online via Zoom: **Meeting-ID: 629 4162 9796, Kenncode: 713487** and in presence in building **0509** room **1977**.

Examination committee:

Chair: **Prof. Dr.-Ing. Eckehard Steinbach**

First Examiner: **Prof. Dr. rer. nat. habil. Rudolph Triebel**

Second Examiner: **Prof. Dr. rer. nat. Daniel Cremers**

Third Examiner: **Prof. Vincent Lepetit**

Munich, the **25** of **October 2024**

Eckehard Steinbach

Mailing list:

Members of the examination committee

Doctoral candidate

CIT staff

Abstract:

This dissertation addresses the problem of 6-DoF Object Pose and 6-DoF Grasp Pose estimation from visual sensor data, which is crucial for tasks such as robotic manipulation and Augmented Reality. We present novel learning-based methods that are fast, reliable, and scalable concerning training data, test environments, and target objects. Instead of relying on pose annotated data, we train our models in simulation which provides and abundant source of variably steerable data with exact 3D annotations.