Invitation to the Oral Examination – Department CS

For the occasion of his examination for a Doctoral Degree,

Patrick Ruhkamp

will present his dissertation entitled

Robust Learned 3D-Perception

on **October 29th, 2024 at 10:00 am**

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 room 00.12.019 (CIT,Boltzmannstr. 3, 85748 Garching) and online via Zoom:

https://tum-conf.zoom-x.de/j/63194987049?pwd=vwhxLZabsZI3Ea3zXxc6YnYHjfFHVD.1

Meeting-ID: 631 9498 7049

Code: 086774

Examination committee:

Chair: Prof. Stefan Leutenegger

First Examiner: Prof. Nassir Navab

Second Examiner: Prof. Ales Leonardis, University of Birmingham

Garching, the 09th of October 2024

Mailing list:

Members of the examination committee

Doctoral candidate

Abstract:

Perceiving a scene in 3D is fundamental in computer vision and the foundation for many downstream applications. This dissertation presents a novel method to learn robust self-supervised depth estimation from monocular video sequences, introduces new strategies for accurate multi-modal data acquisition, and proposes utilizing Polarimetric image information for supervised and self-supervised 6D object pose estimation. The novel methods target challenging scenarios with photometrically complex objects for accurate and robust learned 3D perception.