

## **Invitation to the Oral Examination – Department CS**

For the occasion of his examination for a Doctoral Degree,

**Junwen Huang**

will present his dissertation entitled

**Learning to Generalize Object 6-DoF Pose Estimation**

on **2<sup>nd</sup> of April 2026** at **10:00 / 10 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 hybrid via Microsoft Teams

**TUM School of CIT, Boltzmannstr. 3, 85748 Garching** in room **00.12.019**.

<https://teams.microsoft.com/meet/37097173896001?p=4sKpc3pXUjt0NakXf>

ID: 370 971 738 960 01

Passcode: vd3h3EU9

### **Examination committee:**

Chair: **Prof. Dr. Michael Gerndt**

First Examiner: **Prof. Dr. Nassir Navab**

Second Examiner: **Prof.-Doz. Dr. Slobodan Ilic**

Third Examiner: **Prof. Vincent Lepetit**

Garching, the **17<sup>th</sup> of March 2026**

### **Mailing list:**

Members of the examination committee

Doctoral candidate

### **Abstract:**

Accurate 6D object pose estimation is vital for robotics, AR, and autonomous systems but remains difficult in open-set scenarios with unseen objects. This thesis introduces

three contributions: MatchU, a multimodal RGB-D descriptor fusion framework; TTAPose, a self-supervised test-time adaptation method; and RayPose, a diffusion-based RGB-only approach. Together they advance robust, generalizable pose estimation for real-world deployment.