Invitation to the Oral Examination – Department [CS]

For the occasion of his examination for a Doctoral Degree,

Qian Feng

will present his/her dissertation entitled/on

Learning based Dexterous Grasping and Manipulation

on **06 may 2026** at **10:00 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.

The presentation and subsequent examination will take place online via [conference system]:
https://teams.microsoft.com/meet/317244156997902?p=q3Uu3wJ0KxJ9p52mUw

Besprechungs-ID: 317 244 156 997 902

Passcode: iw2dS3ME.

Examination committee:

Chair: **Prof. Chunyang Chen**

First Examiner: **Prof. Dr.-Ing. habil. Alois Christian Knoll**

Second Examiner: **[Assoc. Prof. Qiang Li, Shenzhen University]**

Heilbronn, the **21st** of **april 2026**

Mailing list:

Members of the examination committee

Doctoral candidate

Abstract:

Robotisches Greifen und Manipulation werden seit Jahrzehnten untersucht und haben großes Potenzial für Anwendungen in Industrie und Alltag. Das primäre Ziel besteht darin, Robotern zu ermöglichen, autonom und zuverlässig mit Objekten in dynamischen, realen Umgebungen mit menschenähnlicher Geschicklichkeit zu interagieren.

Diese Arbeit adressiert die Herausforderung, robotische Greif- und Manipulationssysteme zu entwickeln, die Echtzeit-Leistung, aufgabenbewusste Anpassungsfähigkeit, robuste geschlossene Regelkreise durch visuelles/taktiles Feedback und menschenähnliche Geschicklichkeit in unstrukturierten Umgebungen ermöglichen.

Robotic grasping and manipulation have been studied for decades and have large potential applications in industry and daily life. The primary goal is to enable robots to autonomously and reliably interact with objects in dynamic, real-world environments, with human-level dexterity.

This thesis addresses the challenge of developing robotic grasping and manipulation systems capable of real-time performance, task-aware adaptability, robust closed-loop control through visual/tactile feedback, and human-like dexterity in unstructured environments.