Institut für Werkzeugmaschinen und Betriebswissenschaften (*iwb*)
TUM School of Engineering and Design
Technische Universität München

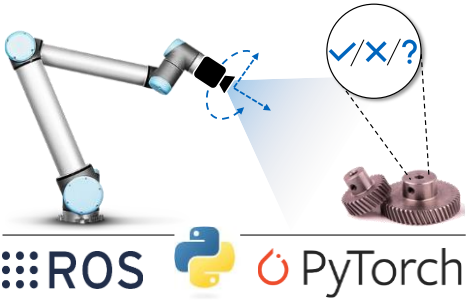
HiWi-Position: Robotics & Computer Vision

Background:

In remanufacturing, used products are restored to like-new condition. To do so, they are first disassembled into their components, which are then cleaned, and inspected to determine whether they can reused or need to be reworked or discarded. This assessment is therefore an important process. However, due to the many different types of defects and product variants, it is still done predominantly manually. In the research project *RoBerD*, the *iwb* is investigating approaches to automate these processes. For this purpose, a demonstrator is being built to handle automotive components with an industrial robot and capture them using cameras. Based on this image data, the wear condition is evaluated using deep learning methods.

Objective:

As part of the HiWi position, you will contribute to building the demonstrator system. This includes programming the



robot using ROS (Robot Operating System), implementing systems for automated data acquisition, and training and deployment of deep learning models.

Skill set:

- Interest in robotics, computer vision, and deep learning topics
- Programming experience, e.g., in Python
- Experience with ROS or PyTorch is a plus

Contact

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