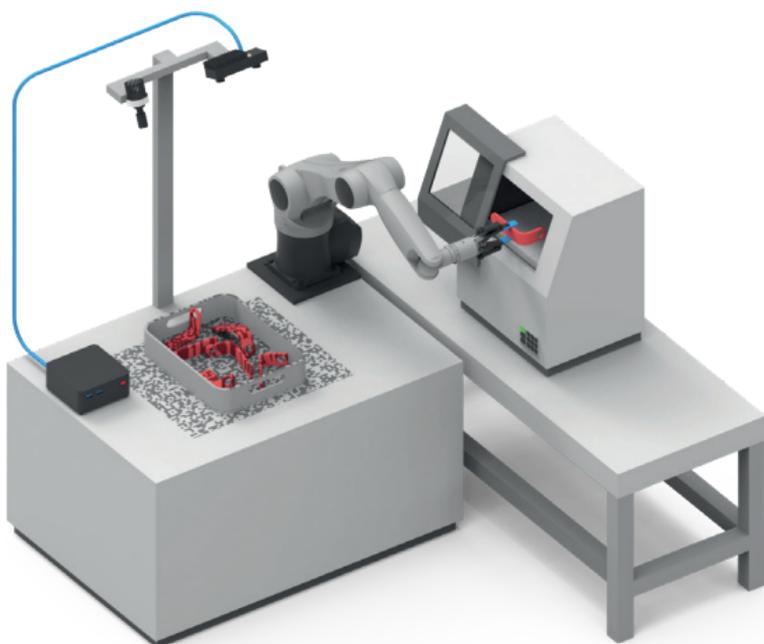# roboception

CADMatch Module

The rc_reason CADMatch Module enables a robotic system to reliably detect, localize and pick items from unmixed load carriers - fully independent of the object's position and orientation - based on its CAD model.

This application can significantly increase the efficiency of production processes, e.g. by automating machine tending.

- Detection and localization of objects based on CAD data
- Delivers grasp point(s) for reliable pick-and-place
- Intuitive interface for configuration of grasp points
- Template creation provided as a service
- Increases efficiency of automation processes

Pick-and-Place from Unmixed Bins

The rc_reason CADMatch module uses a CAD model as input, AppliedAI-based machine learning processes and highly intuitive user interfaces: Non-experts are hence able to configure the grasp points and implement the pick-and-place process with just a few mouseclicks.
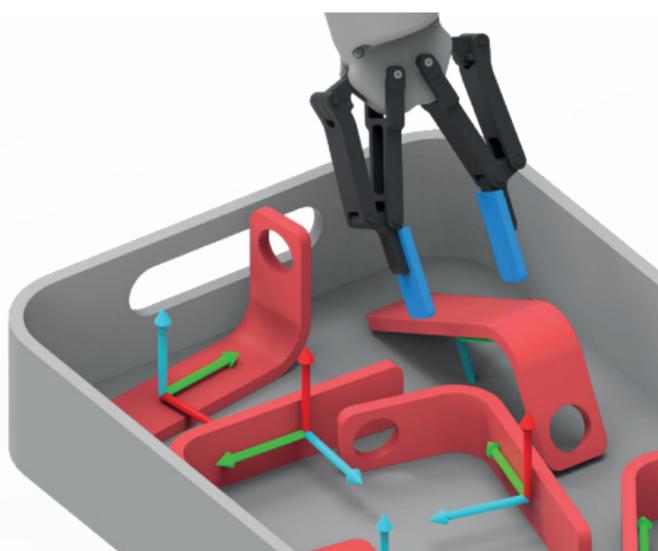
The software allows the specification of one or more grasp points per object, hence enabling picking by a two-finger gripper or a suction device.

This module runs off-board the rc_visard on an rc_cube computer and is operated through an intuitive WebGUI interface that includes a grasp-teaching interface.

The CADMatch Module requires a template of the object to be detected. This serves as input to an AppliedAI-based detection process. The creation of this template from the object's CAD data is available as a service.

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