

Projektförslag för kandidatarbete vid Elektroteknik (E2)

EENX15-21-15 TIAGo, help me unpack some boxes

Background

How many times have you moved to a new apartment? Imagine that you have a robot that helps you to unpack the content of the boxes. Unpacking and cleaning are some of the most repetitive tasks in a household environment. How wonderful would it be to have a robot doing these tasks for us? These tasks aim at evaluating the different capabilities of robots in challenging environments.

Problem description

In this thesis, the students will design and develop a variety of different learning, reasoning and control methods. These methods that will allow a robot to identify and grasp objects from inside a box and place them in the correct locations, for example, cups and plates should be stored in the cupboard in the kitchen.

Sometimes the robot may need to move to another room, for example, to the living room to place books in the bookshelf or the toothpaste in the bathroom. Then, the learned models will be transferred into a virtual service robot (e.g. the TIAGo robot) to interact with humans in a virtual scenario.



Målgrupp: TKAUT, TKMAS, TKELT, TKDAT, TKTFY,

Gruppstorlek: 4–6

Antal grupper: 1

Förkunskapskrav: Basics of Automatic Control, Programming (Python, ROS), Dynamics

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