Projektförslag för kandidatarbete inom Elektroteknik (E2) EENX15:

Let's help our doctors! Developing a portable sorting robot

Problembeskrivning

In the last months, we have witnessed the need for intelligent service robots at hospitals. Particularly, the health care sector requires efficient human and robot collaborations. In this project, the students will develop control and learning algorithms to allow a service robot to assist nurses by bringing and sorting their instrument trays.

Problembeskrivning

An important part of this project is to develop the control of the system with the help of ROS (Robot Operating System). This group will work on:

- The design and the development of a movable robot's base where a robot could be mounted. This group will use a Universal Robot 3 (UR-3).

- The design of a 3D gripper for the UR-3 robot to manipulate different objects.

- The identification of different types of objects in a nurse tray. This will be done by integrating the information of different sensors, such as cameras, and other sensors in your system via ROS.

The purpose of this project is that students learn about the importance of developing and integrating different capabilities in a robotic system. Furthermore, the students will use programming and some learning algorithms to build intelligent automation.

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