Fraunhofer ITALIA

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La ricerca ha bisogno di te.

Internship/Thesis Offer

Implementation of a demonstrator for collaborative robotics applications

Overview

A promising approach for enhancing flexibility of automation systems is the removal of fences that separate robots from humans, to enable human-robot collaborative applications in a shared workspace. Close collaboration between robots and humans allows us to merge cognitive skills of humans with the force, repeatability and precision of robots.

In the above-mentioned scenario safety aspects are crucial to avoid injury to the human operator. Therefore, specific safety requirements must be considered during the development of collaborative robotic applications. Your activities will contribute to the development of a demonstrator for collaborative robotics applications in our institute. The activity will involve working with a modern robot manipulator with joint torque sensing.

Tasks

The tasks will include:

- a literature review for acquiring basic knowledge on collaborative robotics;
- interfacing a RGB-D camera with a robot manipulator;
- implementing robot control schemes for human-robot collaboration;
- writing a technical note for summarizing the results.

In case of an internship, depending on its results, an extension will be possible for a bachelor/master thesis.

Desired skills

We are looking for a passionate, self-driven candidate with background knowledge either in electrical, mechanical engineering, or computer science. Knowledge of C++ and Python are necessary. Basic knowledge of robot kinematics and the Robot Operating System (ROS) are very much appreciated (but not mandatory).

Supervisor:
M.Sc. Andrea Giusti

Duration:
6 months

Research area:
Robotics, safe human-robot collaboration

Language:
Italian or English

Degrees:
Electrical/Mechanical Engineering or Computer Science

How to apply:
Please send us a motivation letter, your CV and academic transcript

For further details, please contact us:
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