

# Human-Robot Co-existence

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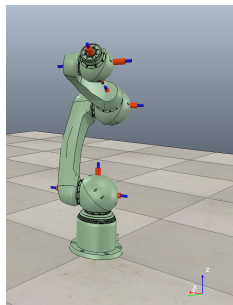
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# Visualisation of HRC scenarios in simulation

Simulation is useful in research to:

- visualise aspects of a scenario (e.g. contact forces, position of human/robot at future times) which are otherwise hard to conceptualise,
- try out scenarios and control strategies without the risk of breaking the robot!



You will work on a VRep simulation of a Human-Robot co-existence scenario. Your task is to augment the visualisation with useful information, e.g.:

- the future predicted position of the human,
- the risk of collision,
- the closest distance to the robot, etc.

# Your requirements

This semester work will be largely practical. You should therefore have:

- Experience of ROS
- Experience with MATLAB/Simulink
- Understanding of robot kinematics (e.g. from lecture *Robotics* by Prof. Burschka)
- *Desirable but not necessary*: experience with programming robots
- *Desirable but not necessary*: experience with V-Rep

## Interested?

Or do you have another idea for a seminar topic in Human-Robot  
Co-existence?

Contact me with your year of study, relevant courses you have taken  
and relevant skills!

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