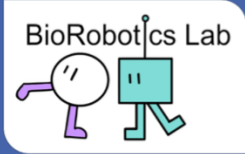


Optimization and Biomechanics for Human Centred Robotics

KIT BioRobotics Lab



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Bachelor's Thesis: A social human-robot interaction study of the robot Navel reading stories to children

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Background

Social robots are designed to interact with humans in a socially intelligent and engaging way – by communicating with them through speech, facial expressions or gestures. In contrast to many other robots, they do not perform physical tasks for people and in most cases do not even enter in physical contact with them, but aim to increase their well-being in a purely social way. Current research evaluates what social robots have to look like and how they have to (inter)act in order to be accepted by humans as companions and build up social relationships. The small social robot Navel by Navel Robotics is a relatively new social robot which is currently explored in the context of elderly care, but also seems to be a very promising platform to interact with children of different age. The proposed bachelor thesis is integrated in a research collaboration with IIT in India within the IEEE RAS SPARX program. The influence of cultural differences is an important aspect and open question in social human-robot interaction.



Scope of the thesis

The Bachelor thesis investigates social human-robot interaction of Navel with young high-school students while reading a story to them. We want to explore how well children listen to and learn lessons from robots and how much they appreciate the interaction with the robot. We want to compare the outcome of listening to Indian and German classical stories, as well as direct robot contact vs watching a video of the robot performing the same actions. This Bachelor thesis includes the following steps:

- Programming the Navel robot to tell stories in a socially engaging way using facial expressions
- Performing a study with high school children recording data, evaluating their understanding of the stories, and getting subjective feedback
- Analyzing all data collected and perform comparison with parallel study performed in India with Indian high school students.

Required knowledge

This thesis requires a basic knowledge of robotics and programming skills.