

PhD project - Abstract

Kinesthetic Teaching for Robotic Assembly

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Programming by demonstration is the process of teaching a robot to do a particular task by demonstrating how to do it. In particular, the process of grabbing and dragging a robot around is called kinesthetic teaching. This process is effective for repetitive tasks such as pick and place.

Position based kinesthetic teaching isn't able to compensate for inaccuracies that might arise in the assembly process. A solution is to incorporate force measurements and estimates in the process.

The aim of the project is to propose and develop algorithms that makes it easier to make a good demonstration.

We aim to extract the intention of a demonstration to ensure that "bad" demonstrations can be used for programming the robot.

This will lead to possible improvements in the existing algorithms, such that we can get smoother and easier control, better reproduction, and overall safer and more reliable robot programs.