

Error Recovery in Robot-Based Assembly (SA/FP/IDP/MA)

Motivation

At the iwb, research is being conducted on the robot-based assembly of deformable cables in order to improve ergonomics, quality, and efficiency. The cables' hard-to-predict behavior introduces uncertainties that make robust automation difficult.



Objective

The aim of the thesis is to develop a methodology for error handling in robot-based cable assembly.

Possible Tasks

- Analysis of error signals and their temporal characteristics
- Structuring of possible strategies for reactive and preventive error handling
- Development of a pipeline for error recovery
- Integration of a simulation-based validation of the strategies
- Setup and execution of experiments to validate the pipeline
- Evaluation of different error-handling strategies

Requirements

- Structured way of working
- Good programming skills
- Ability to solve problems independently

Contact

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