Masterthesis within the UNICARagil project

Analysis of actuator faults and development of compensation strategies for the motion control

For the vehicles in the research project UNICARagil, FZD is developing a trajectory tracking control system. The vehicle use single wheel actuators, that have different degradation modes. The trajectory tracking control has to compensate actuator faults. The aim of this thesis is to analyze different possible faults, or combinations of those, and to develop compensation strategies for the control algorithms.

Tasks:

- Analysis of different degradations and their impact on vehicle motion control; derivation of a range of compensable faults
- Development of compensation strategies for the existing control algorithms
- Execution of tests within CarMaker simulation environment and analysis of the results

Requirements:

- Basic knowledge in mechatronic systems
- Independent, structured working style and interest in automated driving

General project information: [https://youtu.be/yRk6xCd2B5M](https://youtu.be/yRk6xCd2B5M)

Source: UNICARagil Aachener Kolloquium 2018

NOTICE: All projects and theses at FZD can be done in English or German, as preferred.
ANMERKUNG: Alle Projekte und Arbeiten bei FZD können wahlweise in Englisch oder Deutsch durchgeführt werden.
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