New lecture Optimal Control and Predictive Control

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Optimal control approaches are by now the most versatile, flexible, and most often used modern control approaches. Applications span from robotics, autonomous driving, UAVs, energy systems, biotechnology, up to biomedicine. The lecture introduces the fundamentals of optimal control, focusing on the method and theoretical base

embedded optimization
model predictive control
Pontryagin's maximum principle
constraints dynamical systems shadow cost
Hamilton-Jacobi-Bellman equation
static optimization

optimal control
dynamic programming
principle of optimality
variational calculus

It provides an outreach towards efficient numerical solution strategies and model predictive control.

First lecture: Wednesday 5th May 13:30 via zoom

Details: see TUCaN and the moodle page of the course