Generalization of Compensative Zero-Moment Point Trajectories for Biped Walking

Problem description:
The state of the art of online biped walking control is based on walking pattern generation and trajectory tracking along the pre-planned trajectories based on joint position control [1]. In the walking pattern stage simplified models are used in order to reduce the computational cost and realize real time implementation. However this introduces model inconsistency problem and causes zero-moment point (ZMP) tracking error. A learning algorithm has been proposed to learn compensative ZMP (CZMP) trajectories from walking trials [2]. This bachelor thesis is aiming at exploring the generalization ability of learned CZMP using different machine learning algorithms.

Tasks:
- Study different machine learning algorithms for generalization purpose.
- Apply different machine learning algorithms for CZMP trajectories.
- Evaluate the generalization result in simulation
- Documentation

Bibliography:

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