

Dynamic simulation of a walking robot

bachelor/project/master thesis

There is a great interest in walking robots since legged locomotion allows them to move in various, even difficult, terrains. It is the goal of this thesis, to create a rigid body model of a walking robot and simulate its motion.



left: <https://www.bostondynamics.com/atlas>, right: <https://www.anybotics.com>

The main tasks of this project are the derivation of a rigid body model from a given CAD model of a robot, the implementation of the equations of motion, the choice of a suitable contact model to describe the interaction with the ground and the simulation of the robot. Moreover, topics such as inverse dynamics, design of gaits or control of the robot can be explored.

requirements

- “multibody dynamics” or “computational multibody dynamics”
- basic programming skills in e.g. Python or Matlab

contact

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