



Master/Bachelor Thesis

Design and Control of 3D Locomotion for a Snake-like Robot



ROS



Open Source Robotics Foundation

Motivation

The advantage of a snake-like robot imitating the locomotion of real snakes is that it can move well in unstructured environments, like narrow pipes, rough or soft ground, and even in water. However it is difficult to control due to the fact that the robot has high degrees of freedom. Besides the locomotion, an autonomous moving ability is increasingly needed for bio-robotics.

Task

You will participate in the development of a 3D-locomotion robot. Your main job will be building up the software of the robot us ROS, aiming to implement the control algorithm, which has been developed and simulated. For this, knowledge of C++ or python is very helpful. Besides, if you are interested in control theory of robotics, you can also involve in the gait control development.

This work is in English.

Arrangement

Learn the developed snake-like robot hardware and control algorithm;
Learn the ROS development progress;
Implement the snake control algorithm using your ROS software.

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