Development of the Neurorobotic Mouse

Abstract:

In this paper we describe the NeuroRobotic Mouse (NeRmo), a low-cost, modular bio mimetic robot, mimicking the actuation and walking behaviour of a common mouse (Mus musculus). This latest version has 13 Degrees of Freedom with 21 tendon driven joints and can be controlled in both open and closed loop. It is capable of different gaits as well as keeping the body upright when in a sitting position. The robot includes joint position sensors, pressure sensors on the soles of the feet as well as two cameras in the head. As the design of this robotic platform was inspired by detailed observations of the biomechanics of mice and rats, it can be used in motion research using animal data as an element of comparison, or even as actuation input.

Stichworte:
Robot, Mouse, NeRmo
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