

Robotics with MuJoCo, HW 3

Topics: Modeling and controlling a double pendulum

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1. Rott's pendulum:

The Rott's double pendulum is another system (besides the standard double pendulum) which demonstrates chaotic behavior. You can watch a video here: <https://youtu.be/dhZxdV2naw8>. Fig. 1 shows model of the Rott's pendulum. Note that the first link (connected to the ground at O) is shown in blue and is L-shaped while the red link is connected to the blue link via a hinge joint at P. Model the pendulum in xml.

- Choose a configuration such that pendulum will start to move when loaded through MuJoCo's *simulate* file and demonstrates the chaotic motion.
- Write code to do gravity compensation. When the pendulum is released at a known configuration, it stand still because the torques at the joints compensate for gravity

Submit the entire folder such that I can check part 1 by loading the xml file in simulate and the rest by running the C code.

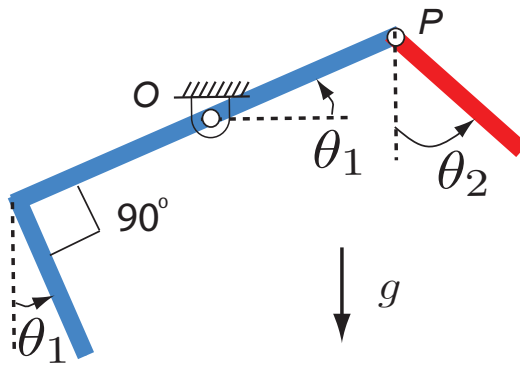


Figure 1: Rott's pendulum