To perform a Backflip using learning-based Control for a Bipedal Spring Loaded Inverted Pendulum (SLIP)

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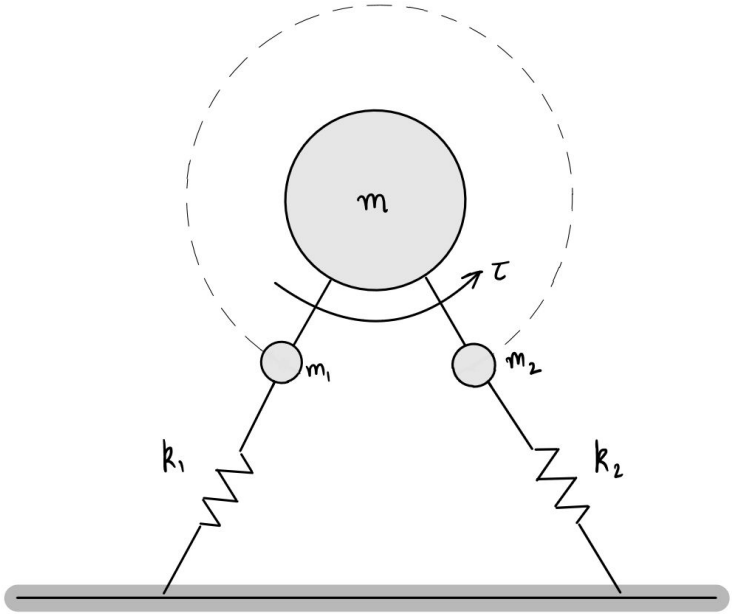

SLIP describes a point mass rebounding on a spring and this model captures the dynamics similar to running animals. We aim to propose a learning-based control scheme to control such a bipedal Spring Loaded Inverted Pendulum (SLIP) doing a backflip and compare its performance with the traditional dynamics-based model.

$$\dot{x} = f_{actual-dynamics}(x, u)$$
$$\dot{\hat{x}} = f_{learning-based}(x, u)$$