

Mini Project 3: Stabilizing the Pendulum in the Up Position

The goal of this event is to keep the pendulum balanced in the vertically upward position for as long as possible. Because you cannot perform swept sine system ID on an unstable system, we will talk in lecture about how to estimate the TF in the unstable position based on the TF from the stable position. It is nearly impossible to do PID tuning on an unstable system, so you will need to rely on your root locus.

Your score for the performance portion will be based on how long the pendulum remains vertical. The test ends when your pendulum falls below horizontal. The longer the pendulum stays up, the higher your performance grade.