Project 17, Team 1(LQR)

Cycle Bot Day 4

13 May 2020

Team Members

Shreya Rastogi, Jai Garg, Chinmay Palaye

Daily Report

Important points

- **The algorithm** for the Stabilisation of inverted pendulum was updated.
- Values of Q and R matrices were tuned to get stabilization of the Inverted pendulum simulation in V-rep.
- A meeting was conducted with mentors to give the report and ask queries.

Resources

- Video of Simulation of stabilized Reaction wheel Inverted Pendulum on V-rep.
- Lua Script used on V-Rep

Tasks Done by each teammate

Shreya Rastogi

- Tuned the K matrix for balancing the system.
- Worked with the team to balance the system.

Jai Garg

- Modified Algorithm code to achieve stable simulation in V-rep
- Helped in tuning Q and R Matrix of the control system

Chinmay Palaye

- Worked on the code algorithm to balance the robot.
- Calculations to determine the ideal height of the reaction wheel from the ground.

Tomorrow's Agenda

1. Simulate the reaction wheel balanced inverted pendulum having a pivot point connected to the base.
2. Mathematically deduce the position of the wheel on the bicycle.
3. Mathematical modeling of bicycle bot.
4. 3-D design of the bicycle bot.