

## COM SCI 188: Introduction to Robotics (spring 2025)

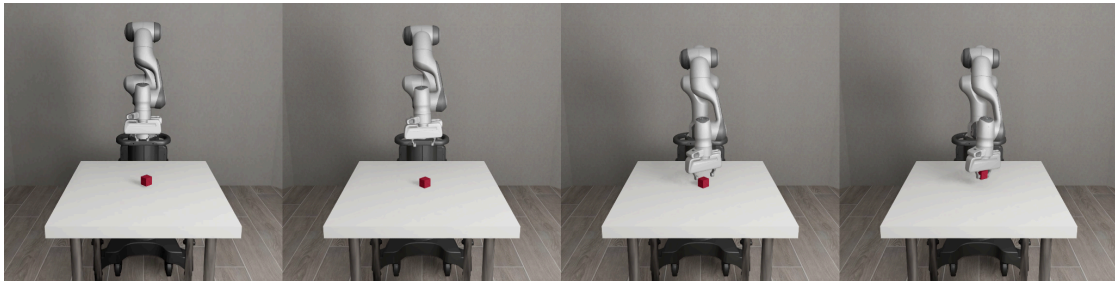
### Coding Assignment 1: PID Controllers for Robosuite Manipulation Tasks

**Deadline:** 4/18 11:59pm

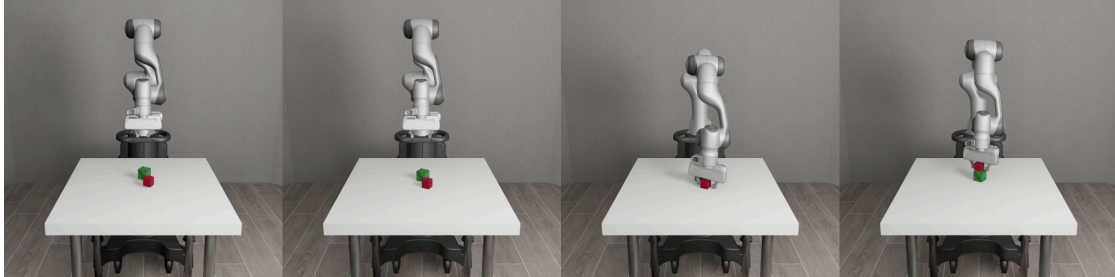
In this assignment, you will implement a PID controller and use it to solve three different manipulation tasks in robosuite.

#### Tasks/Grading:

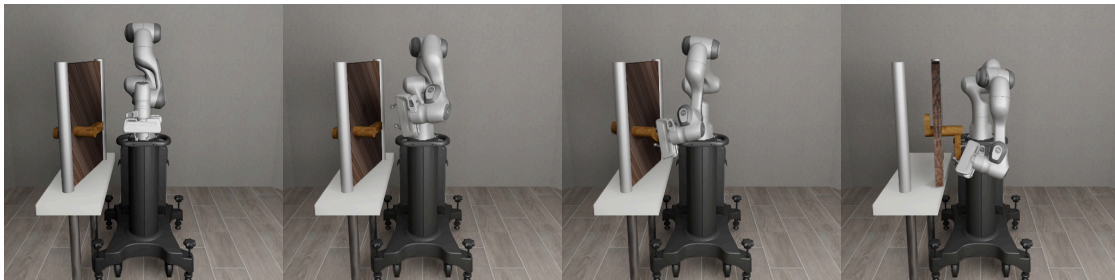
- **Block Lifting (2 points):** pick up a block on the table.



- **Block Stacking (2 points):** pick up a block and stack it atop another block.



- **Door Opening (2 points):** open a door by manipulating its handle.



**Extra Credit (1 point):** Implement a PID policy for any other bimanual task available in Robosuite, such as Two Arm Peg-In-Hole or Two Arm Handover.

## Requirements:

- **PID Controller Implementation (pid.py):** Design and implement a PID controller to control the robot's movements for reaching specified poses. The controller should be task-agnostic.
- **Hard-Coded Policies (policies.py):** For each task, write a task-specific control policy using the PID controller above to move the robot to a set of hand-tuned poses to accomplish the task. The policy takes in state observations and computes the next step action to take.

## Code Submission:

- Please use the provided skeleton code.
- Submit PID.py and policies.py through gradescope. Do not rename the classes!

## Resources:

- [Robosuite Documentation](#)