

# KAIST ME553 Robot Dynamics

Instructor: Jemin Hwangbo, Mechanical Engineering

## Exercise 1

You will be using the ANYmalC model for this exercise. You should download or clone the exercise repo here: [https://github.com/jhwangbo/ME553\\_2024](https://github.com/jhwangbo/ME553_2024). When you run raisimUnreal2.exe and exercise\_1.exe, you should see this screen.



On the right side, you see the robot description panel. Use the dropdown and navigate to the “Frames” panel. You can check which frame you want to show in this panel. You should find “LH\_shank\_fixed\_LH FOOT” in the list. Check it to display it on the screen. You can also see that a green ball is placed at the joint position.

Your goal is to write a function that computes the position of the “LH\_shank\_fixed\_LH FOOT” given any joint angles. You can find the description of the robot in “resource/anymal\_c/urdf/anymal.urdf”. You can find about the URDF convention here: <http://wiki.ros.org/urdf/XML>

**Deliverable:** A single header file named “exercise\_1\_STUDENTID.hpp”. Use the provided template. You should replace “STUDENTID” with your real student id number. Submit it on KLMS.

**Deadline:** by the end of 2nd of April, 2024