Team Description

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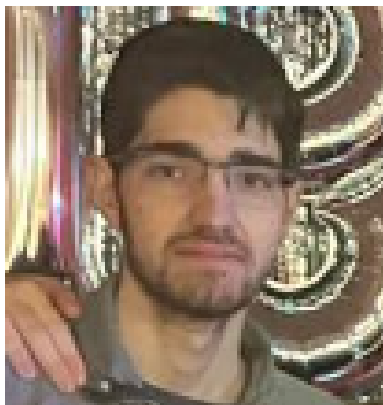
Exercise 2

Since the objective of this exercise is to perform the animation in the most efficient way, we took advantage of the fact that all rotations applicable on each joint should be applied on one single axis (to not break the robot model "constraints"), so that we can consider these 3D rotations as 2D. Therefore, we only needed to lerp the angles on the corresponding axis; in our case we use a regular lerp instead of a fastSlerp because it is cheaper to compute and also performs a smooth ease-in and ease-out.

In case we couldn't treat the 3D rotations as 2D rotations, we should lerp, for each joint, the quaternion components or the angle plus the axis which describe the quaternion, resulting in 3 more lerp functions per joint.

We also implemented the other methods (Slerp, fastSlerp, axis-angle-lerp) for quaternions, neither of which is as efficient as lerp in this case.