Third Task – Mech Track

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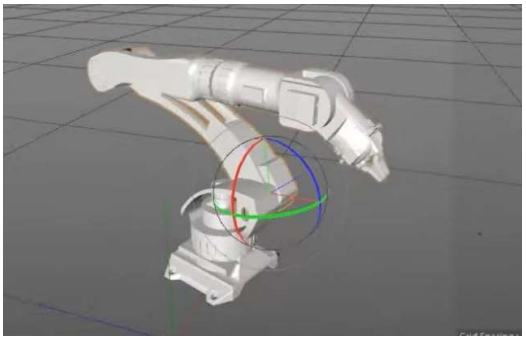
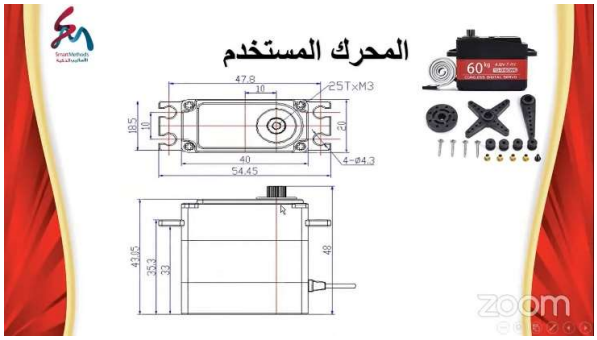
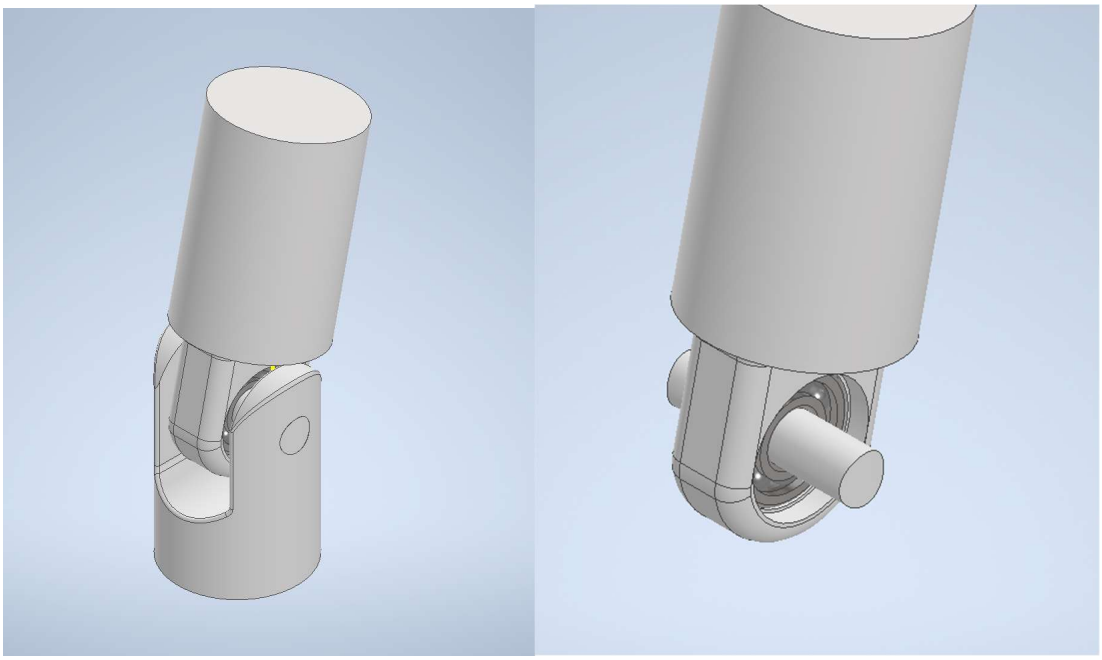
Task description:

- To design joints for the humanoid robot.
- To redesign the robot arm's joint to handle to servomotors.



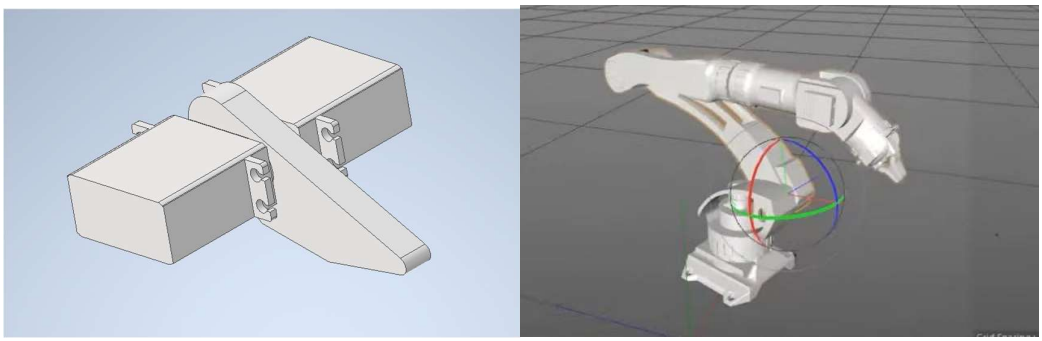


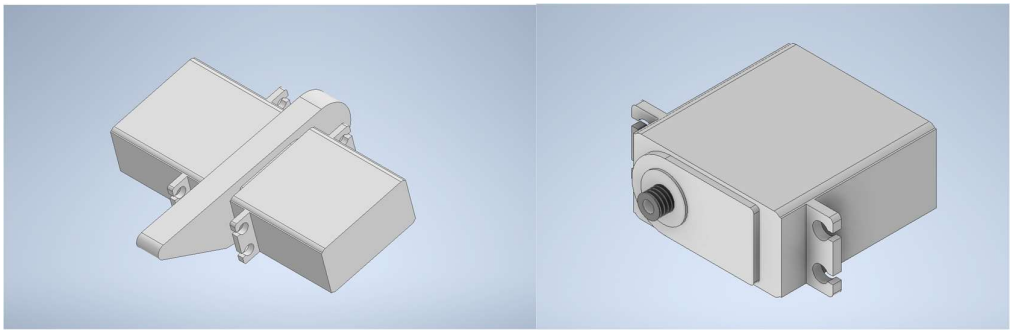
Designing Joints



This simple joint design utilizes the bearing designs made in the second task and a 3D printing format. The design comprises three main components the upper side ring, the bearing shaft, and the lower side clamp.

Servomotor Design and Placement





The design requires us 2 use two servo motors and attach them 2 this specific joint illustrated by Eng. Wessam Munshi, which connects the robot arm to the base and enables it to carry up to 120 kilograms of weight.

The tip of the servos will be inside the arm. Due to difficulties and importing the row blocks on I have designed a model to illustrate the idea, where 2 the two servomotors will be installed perpendicularly to each other.