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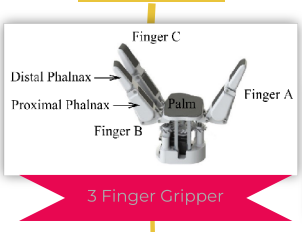
sensors MDPI

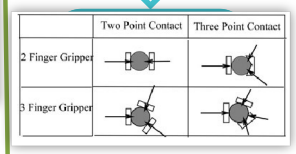
Performance Comparison of Parallel and 3 Finger Gripper Using Human Hand Grasping Taxonomies

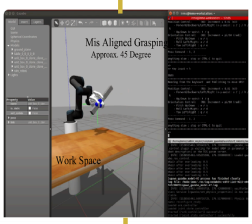
Introduction | Grippers under Study | Sample Objects To be Grasped | Comparison based on no of contact points | Human Hand Grasping Taxonomies | Gripper Testing UsingGazebo Simulator | Results

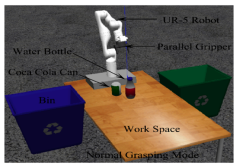


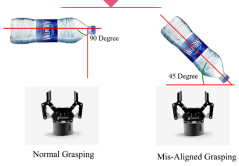
3 Finger Gripper

Parallel Gripper



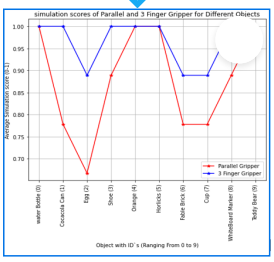






Mis-Aligend and Rotational Grasping

Normal Grasping



Performance curve

How to choose a gripper for a particular application?

This paper assists in solving the issue i.e how to choose an adequate gripper for pick and place operation considering its object handling property. By addressing the objectives of proposed study, researcher can easily select gripper for a particular application and also can develop more capable, adaptable, and cost-effective manipulation systems.

This research`s aim was to fill a broad gap in existing knowledge related to selection of gripper for pick and place operation
If the pick and place task involves handling irregular shaped objects in a cost-effective manner, a parallel gripper may not be sufficient and also if the application demands versatility, dexterity. Since 3 finger gripper also conforms to a limited human hand grasping taxonomies, definitely it has got privilege to work under dexterous pick and place environment.