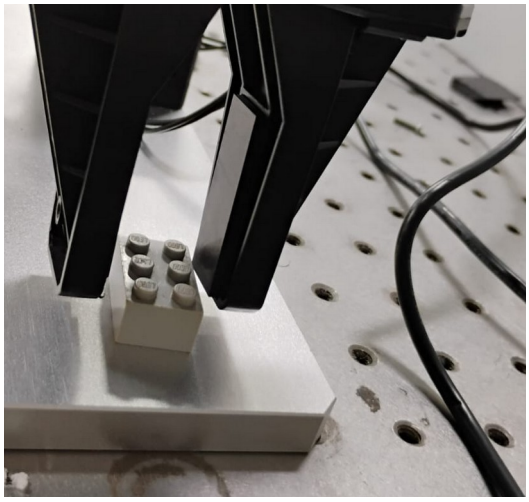
REPORT ON PICK AND PLACE OF LEGO PIECES USING open-MANIPULATOR-X

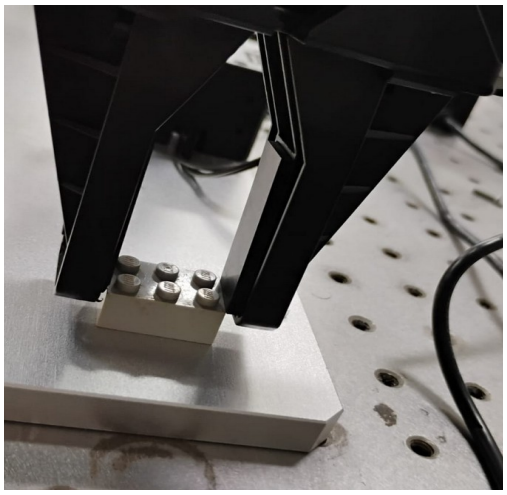
Number of trials for each piece = 10

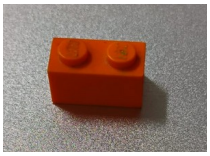
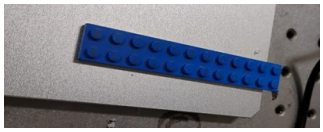
There are 2 orientations for each Lego piece:

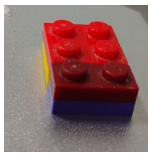
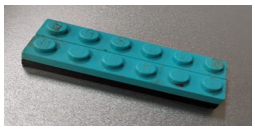
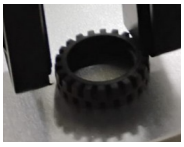
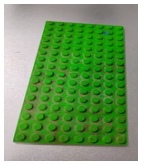
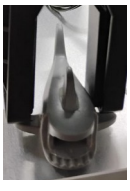
orientation 1

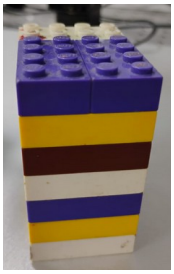


orientation 2



S.no.	object	orientation	Success	Fail
1.		1	0	10
		2	0	10
2.		1	0	10
		2	0	10
3.		1	0	10
		2	0	10

S.no.	object	orientation	Success	Fail
4.		1	0	10
		2	0	10
5.		1	0	10
		2	1	9
6.		1	0	10
		2	10	0
7.		1	1	9
		2	9	1
8.		1	0	10
		2	0	10
9.		1	0	10
		2	0	10
10.		1	0	10
		2	-	-

S.no.	object	orientation	Success	Fail
11.		1	0	10
		2	-	-
12.		1	0	10
		2	0	10
13.		1	0	10
		2	10	0
14.		1	10	0
		2	-	-
15.		1	10	0
		2	10	0
16.		1	(only the bigger grey wheel could be picked, not the smaller ones)	

IMPORTANT RESULTS AND REMARKS

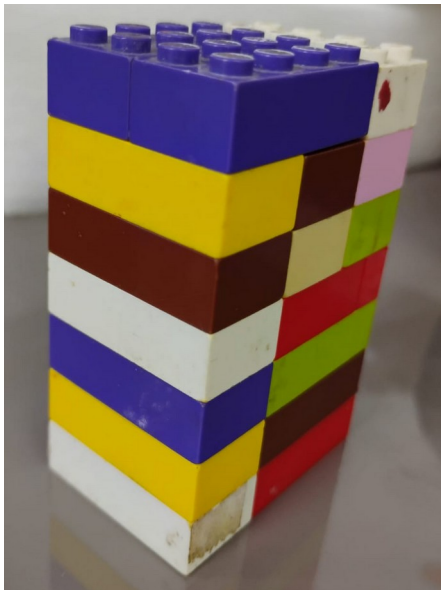
1. The smallest single lego piece that was successfully picked up by the open-MANIPULATOR X was (with this particular orientation only)

-it should have minimum width of 2.5 cm and height of 1 cm (from the platform)

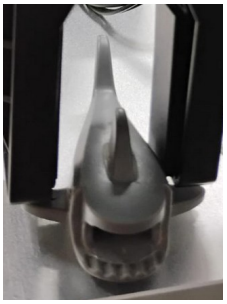
2.The maximum width of Lego piece that can be grasped is 5cm and maximum height is 7cm

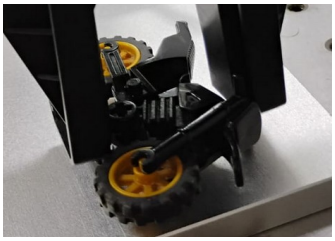
(maximum width)

(maximum height)



3. The gripper grasps the blocks easily but in case of objects with irregular geometries(like whale,bike,window) it may pick them but there are chances of objects getting broken,since its very rigid and brittle.





REMARK: One possible solution to hold the smaller lego pieces would be to insert some pads on the gripper of open-MANIPULATOR X