Supplementary Material

1 COMPONENTS OF DEEPCLAW 2.0

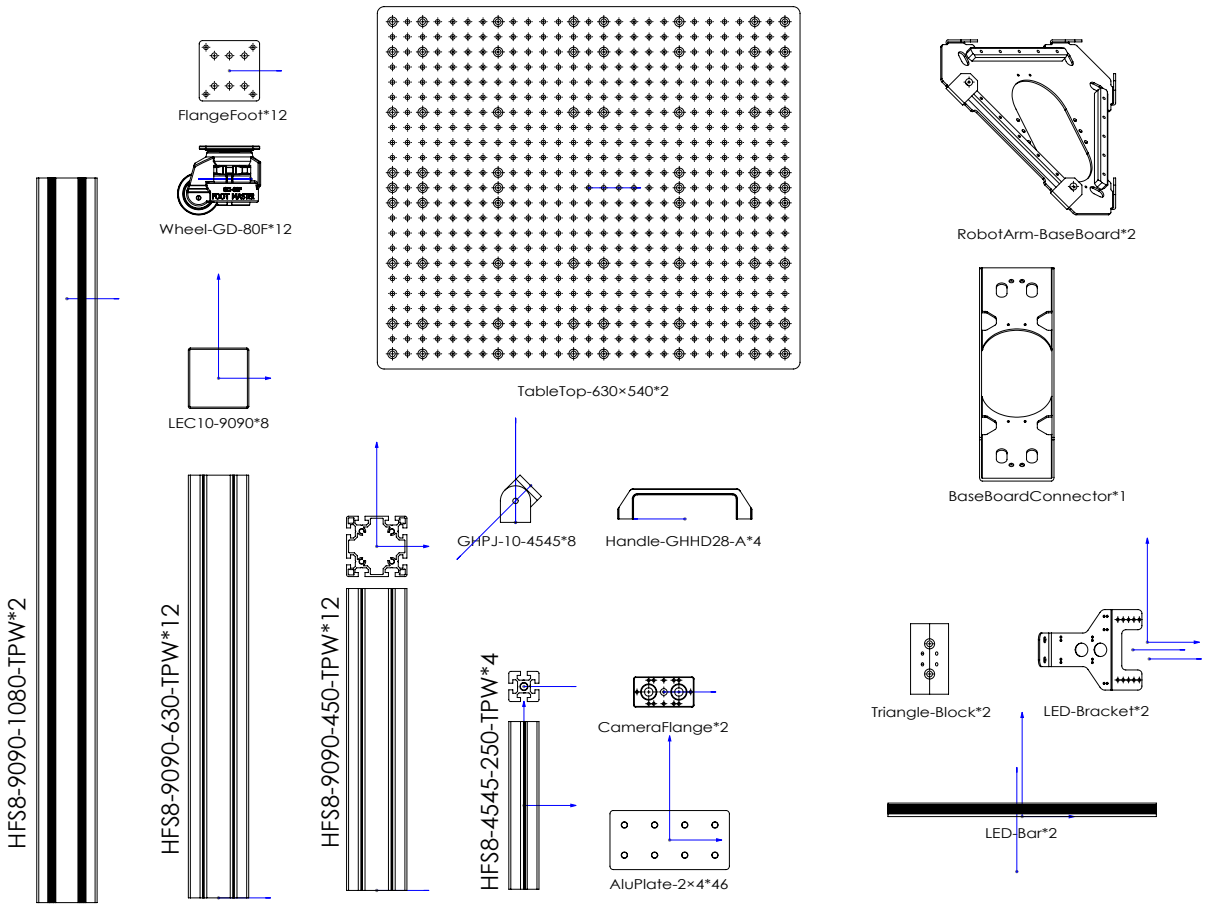
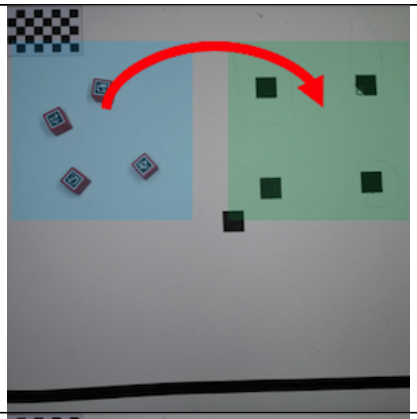
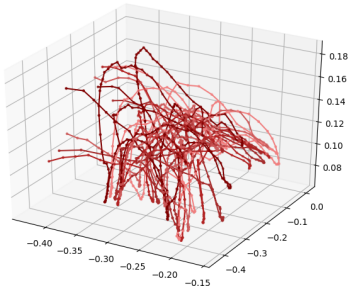
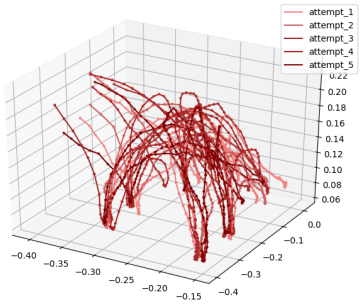
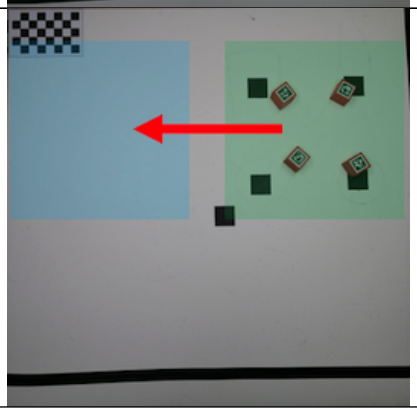
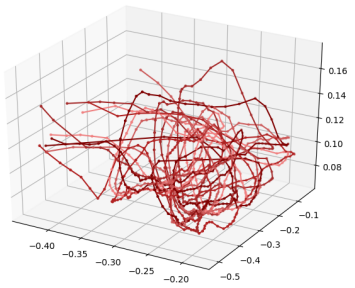
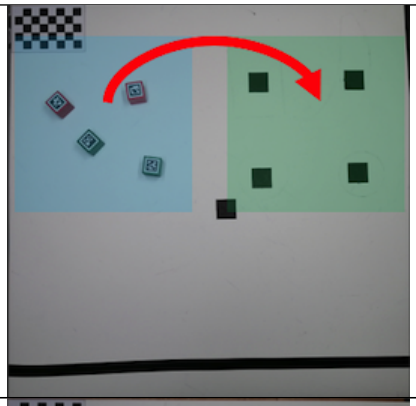
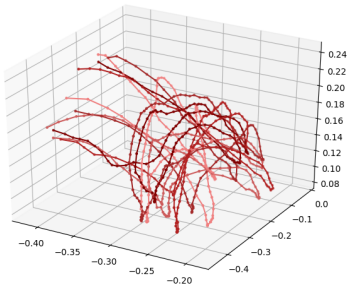
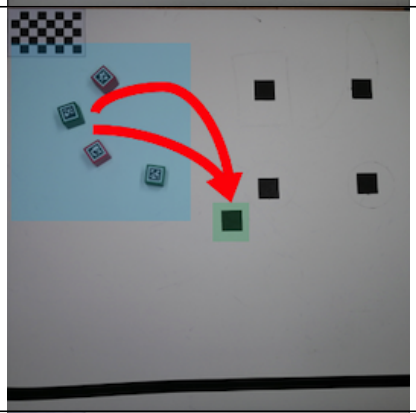
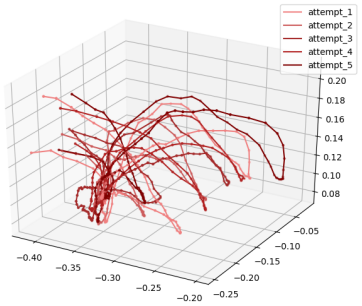
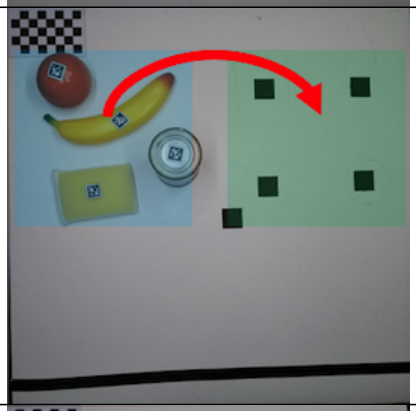
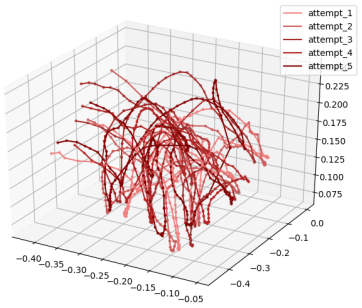
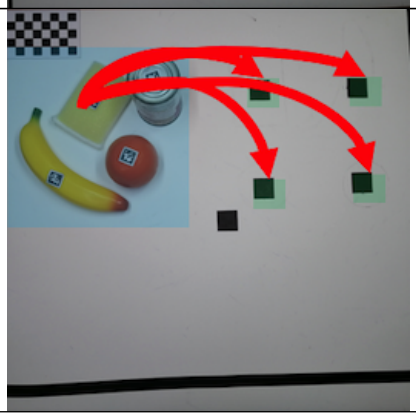
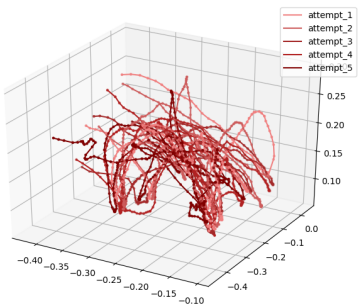


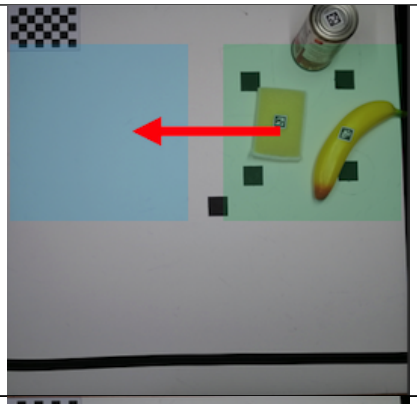
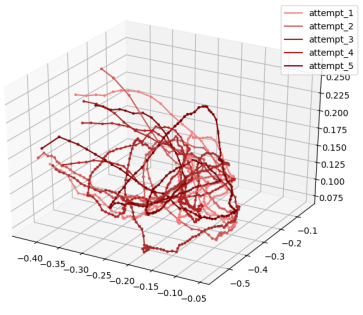
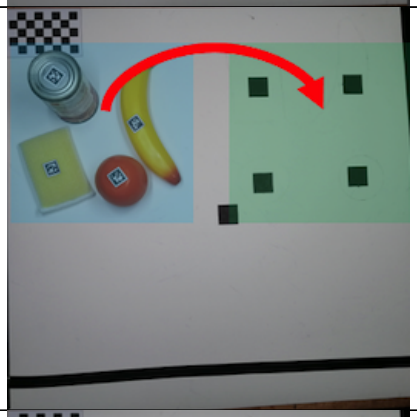
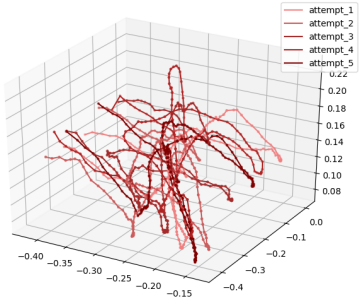
Figure S1. All components of the DeepClaw 2.0 station.

2 TASK DESCRIPTIONS AND RESULTS

Table S1. The descriptions, schematic diagrams and trajectories of 10 tasks. The trajectory results are positions of the left tag on tongs during five task attempts.

Task	Description	Schematic Diagrams	Trajectory Result
Task1	Pick 4 red cubes from a random pose in the initial area for each cube to a random pose in the target area for each cube		
Task2	Pick 4 red cubes from a random pose in the initial area for each cube to a specific pose in the target area for each cube		
Task3	Push 4 red cubes from a random pose in the initial area for each cube to a random pose in the target area for each cube		

Task4	Pick 2 red cubes as target objects with 2 green cubes as other objects from a random pose in the initial area to a random pose in the target area		
Task5	Pick 2 red cubes as target objects with 2 green cubes as other objects from a random pose in the initial area to the state in which the 2 target cubes are stacked in the target area		
Task6	Pick 4 YCB objects from a random pose in the initial area for each object to a random pose in the target area for each object		
Task7	Pick 4 YCB objects from a random pose in the initial area for each object to a specific pose in the target area for each object		

Task8	Push 4 YCB objects from a random pose in the initial area for each object to a random pose in the target area for each object		
Task9	Pick 2 specific YCB objects as target objects with another 2 YCB objects as other objects from a random pose in the initial area to a random pose in the target area		
Task10	Pick 2 specific YCB objects as target objects with another 2 YCB objects as other objects from a random pose in the initial area to the state in which the 2 target objects are stacked in the target area