

Improvement Proposal Challenge

We have done the performance analysis in the earlier stages, and here are some suggestions which can improve the performance of the robot.

The robots used by the team nirma had some issues, their calculations and processing were slower than the other robots. If the rules allowed they could use motion tracing cameras which would easily detect the path of the ball and give instructions to the robot to make changes in the trajectory. Some different sort of rubberised tyres can also be used to improve the grip and the accuracy of the movement.

The robots used by the TUT, JAPAN were not as good as expected. The concept they used was unique but it didn't work as planned. We can see the machine struggle with suction as it was not able to place the suction properly on the block and the synergy between both the arm and suction was not good. Instead of this they could have used the mechanical arm mounted on a 2-axis CNC machine as it didn't restrict the motions of the mechanical arm.

The slingshot mechanism could be replaced by a solenoid electromagnet, which is a device that exerts the force linearly. It can shoot the ball very accurately with the selected amount of force in a fraction of a second.

