L4-C1 ANN and local avoidance

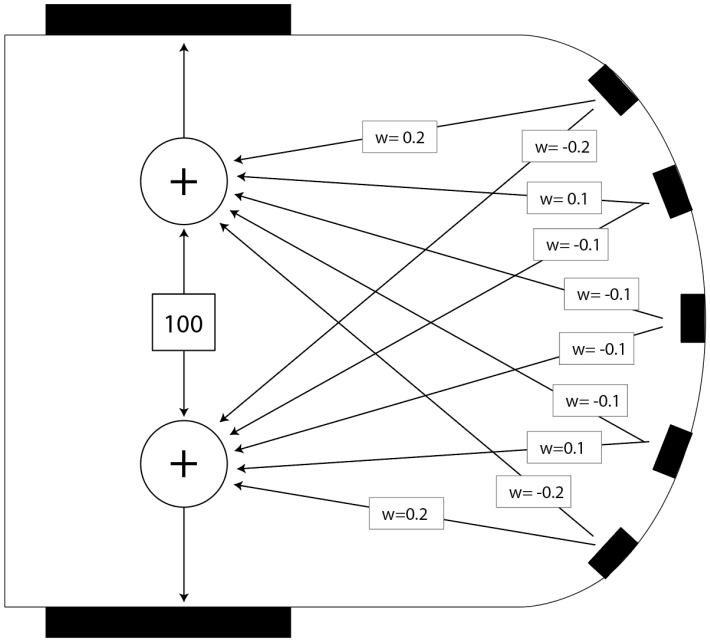
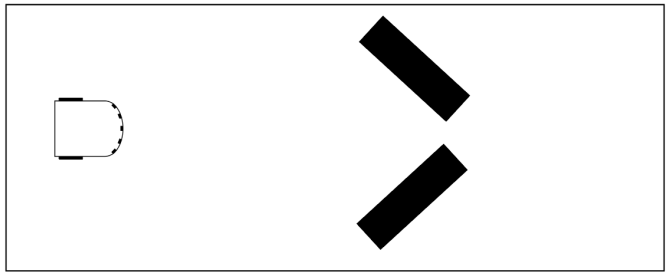
To implement a local obstacle avoidance, one can use a neural network with two simplistic neurons (no output function) and use it to connect sensors to motor speed targets, as illustrated in the schematics A on the right. If the weights of the network are symmetrical, the robot faced to a symmetrical obstacles (picture B.) will be unable to avoid. One of your colleagues proposes to have a non-symmetrical weight to avoid this problem. What sentences are right (several possible answer)?

A: The asymmetrical weights, if they implement avoidance on both directions (on the right and on the left) will not solve the problem of local minima.

B: The asymmetrical weights, if set correctly, will solve the problem.

C: Changing the weights is like changing the basic vectors of a potential field approach, the reasoning can be made using this tool also.

A.



B.