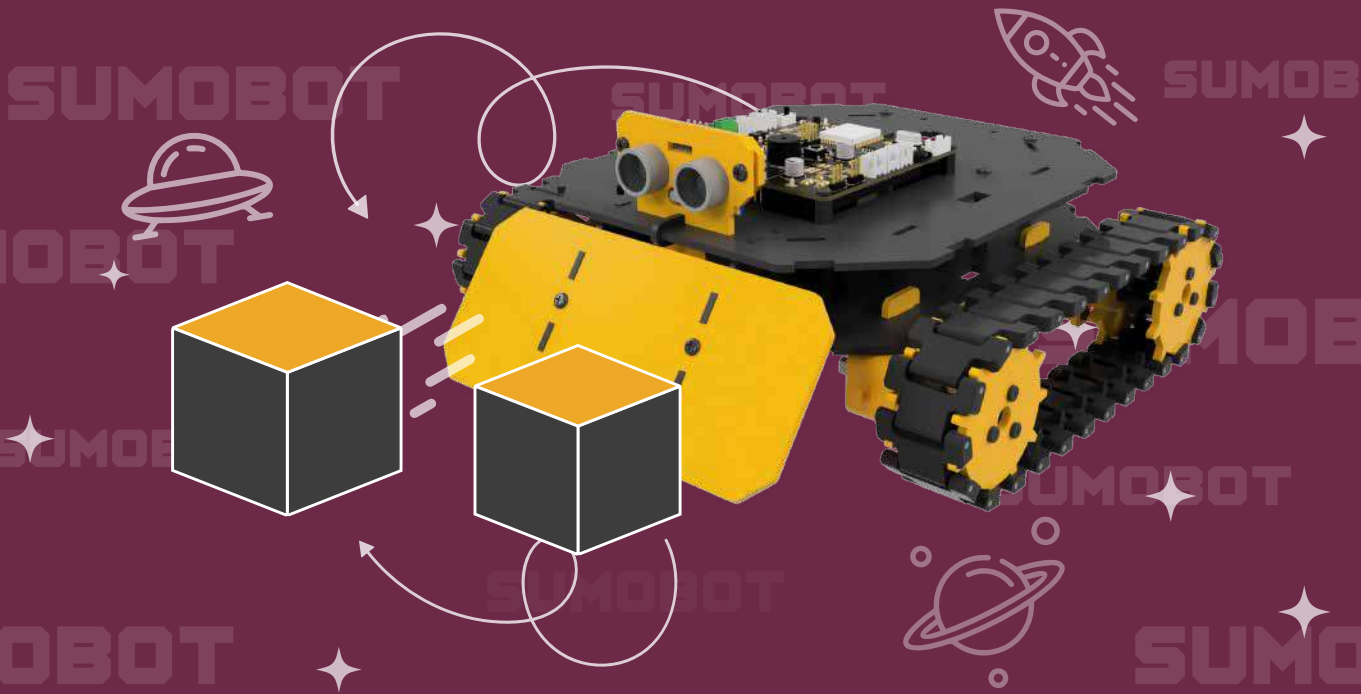


SUMOBOT

SETUP GUIDE



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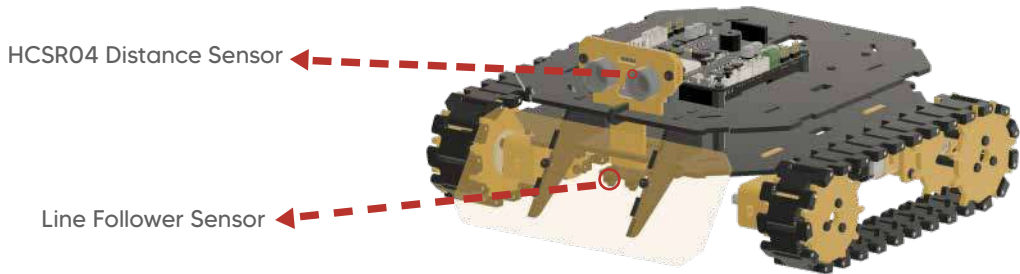
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SumoBot

SumoBot is a REX robot that aims to take the objects on the track off the track, thanks to its ramp, distance sensor and line follower sensor.

How Does SumoBot Work?

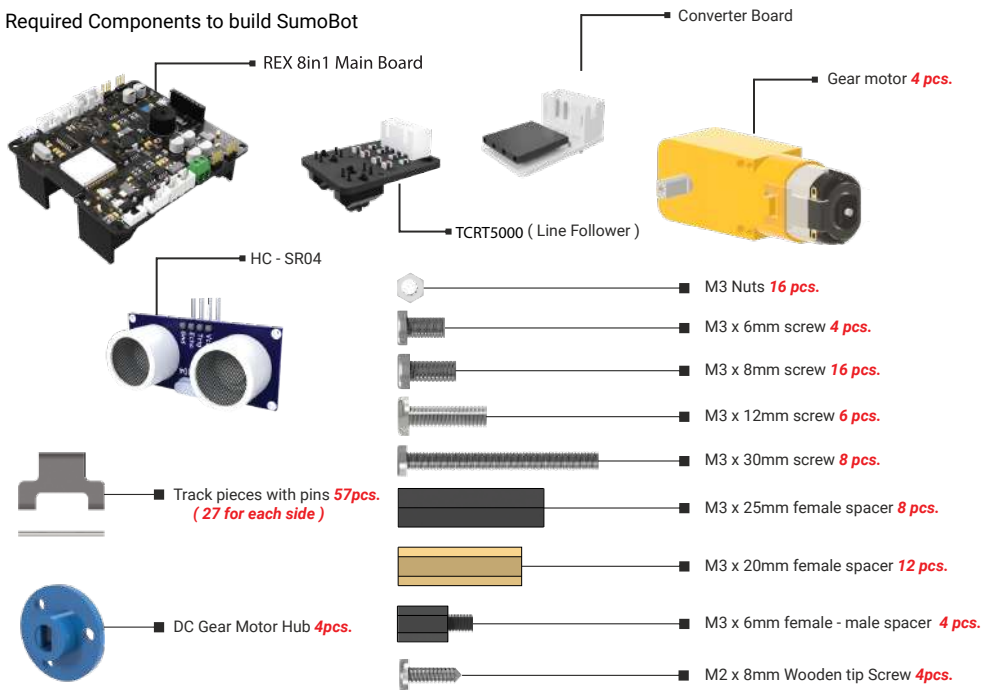
Thanks to the distance sensor in front of SumoBot, it detects the objects/robots around. By moving in that direction, it drags objects/robots off the track thanks to the ramp in front of it.



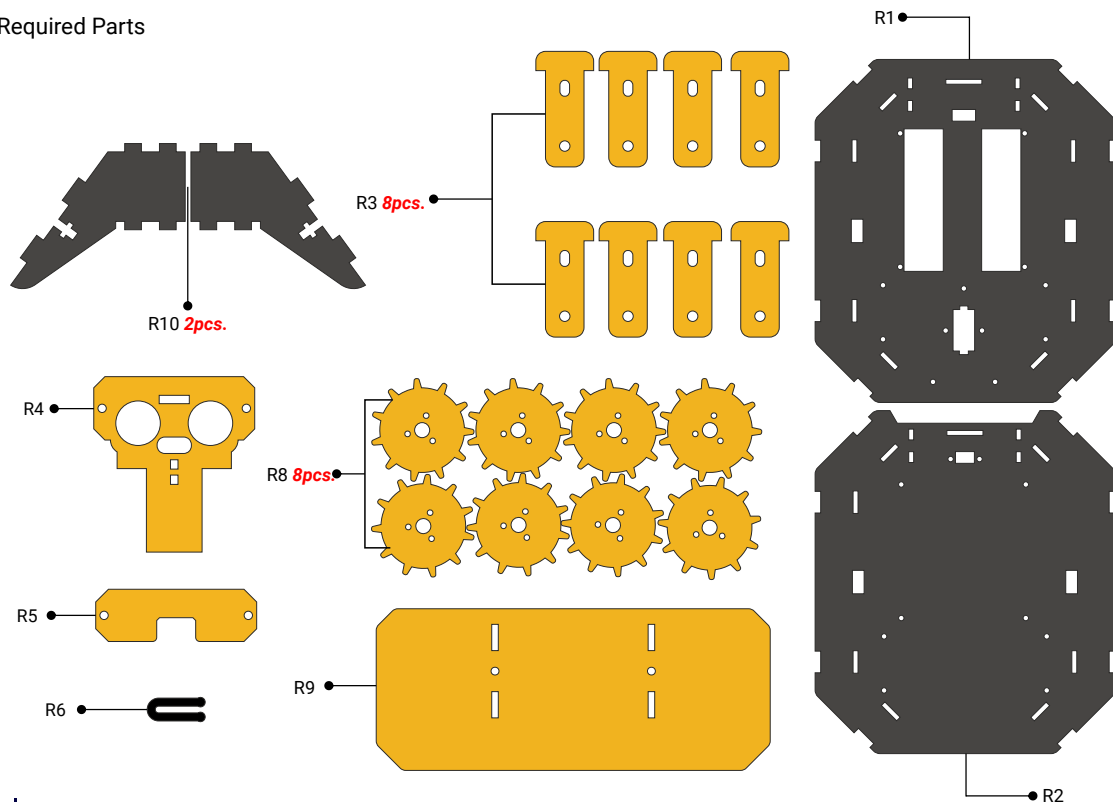
SumoBot detects whether it is on the track or not, thanks to the line follower sensor under it. The line follower sensor has two IR transceivers. The rays emitted from these IR transceiver sensors give different values on a different colored ground. These value differences provide SumoBot to detect whether it is inside the track or not.

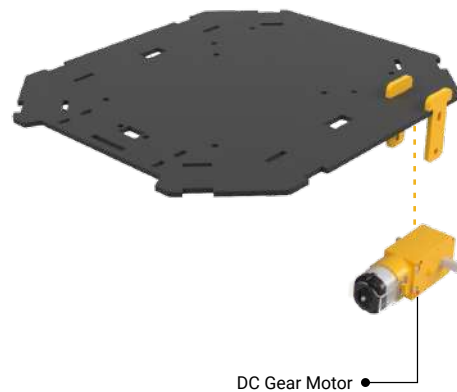
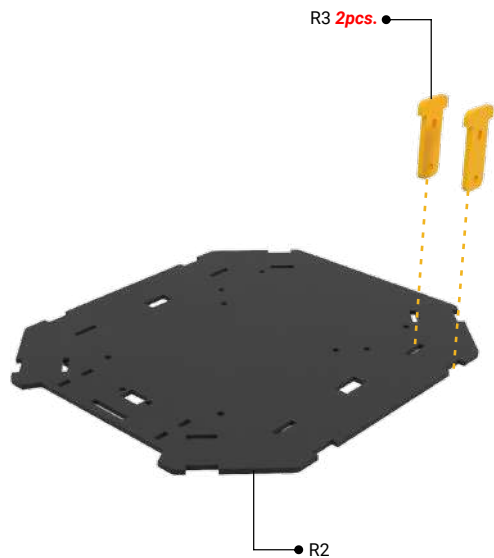
The Installation Steps

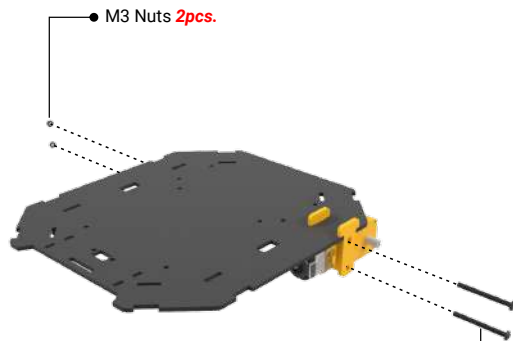
Required Components to build SumoBot



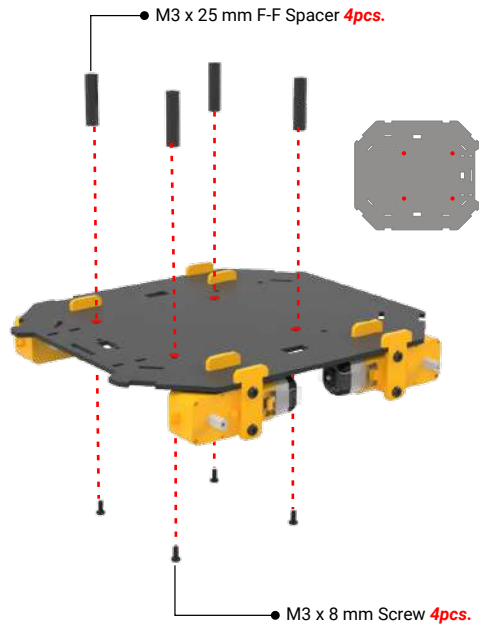
Required Parts

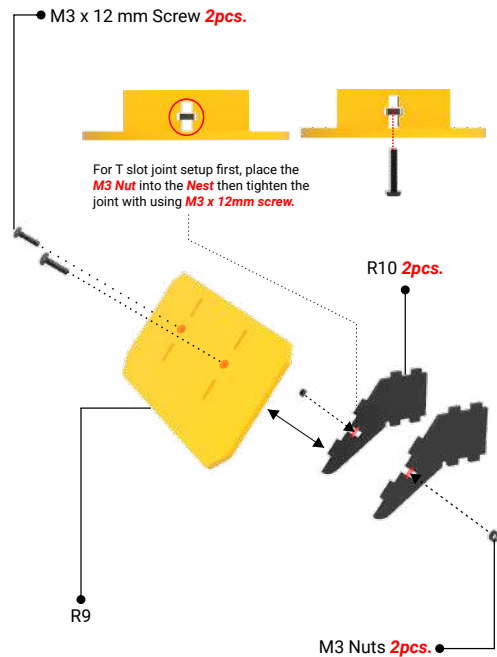
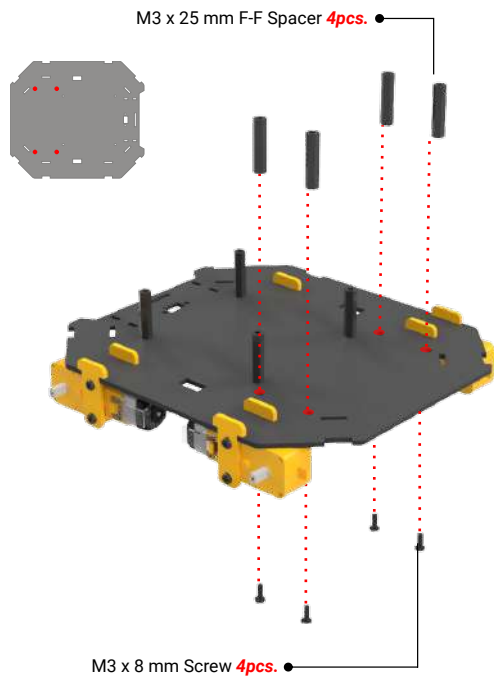






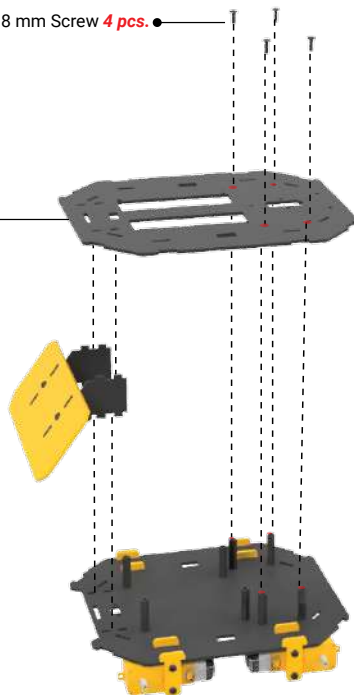
Complete the same steps
for rest of the DC gear motors.





M3 x 8 mm Screw **4 pcs.**

R1

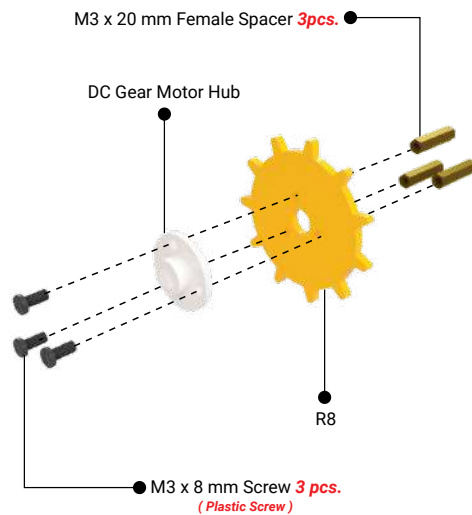


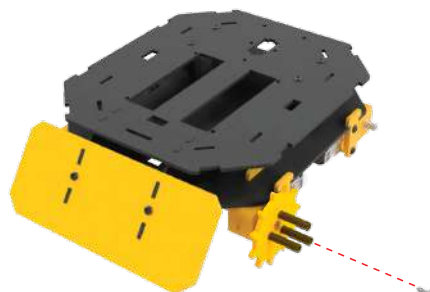
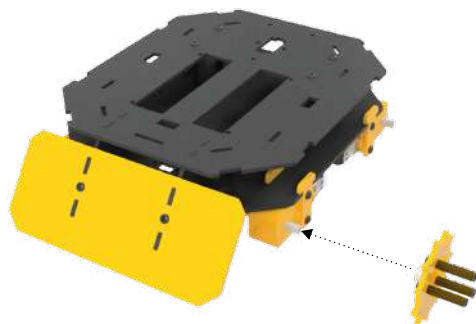
M3 x 20 mm Female Spacer **3 pcs.**

DC Gear Motor Hub

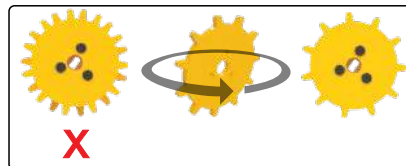
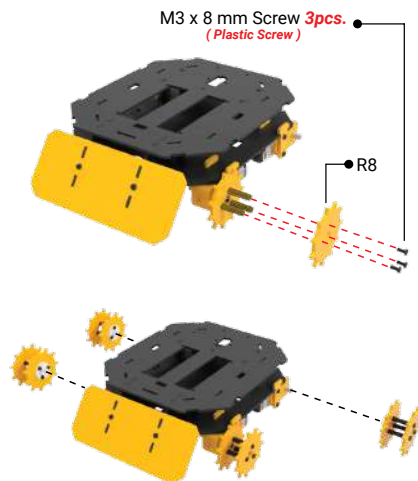
R8

M3 x 8 mm Screw **3 pcs.**
(Plastic Screw)

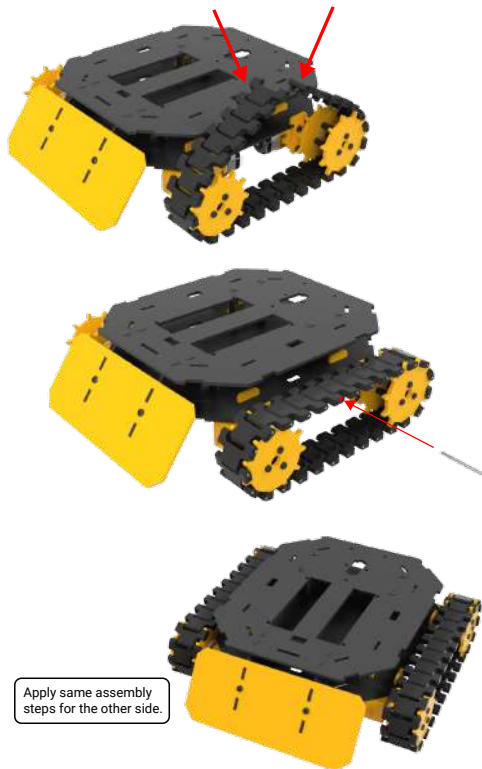
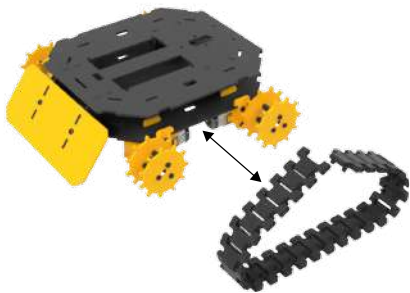
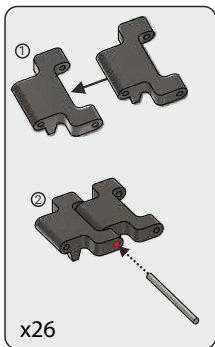


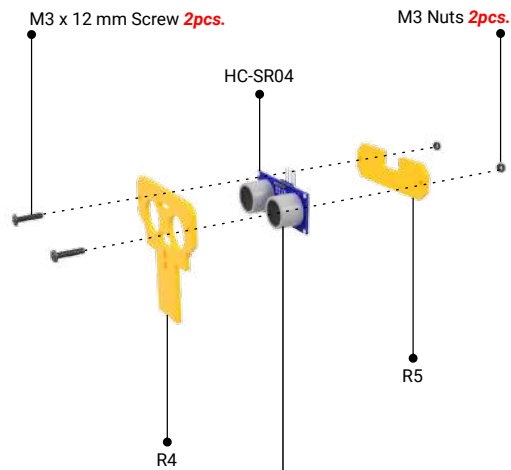
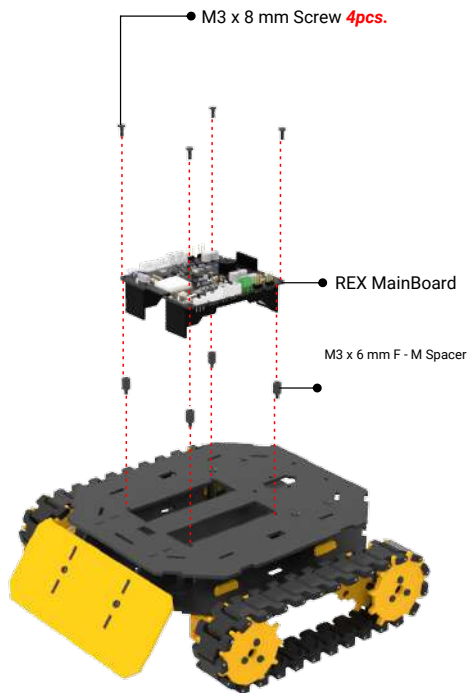


M2 x 8 mm Wooden Screw



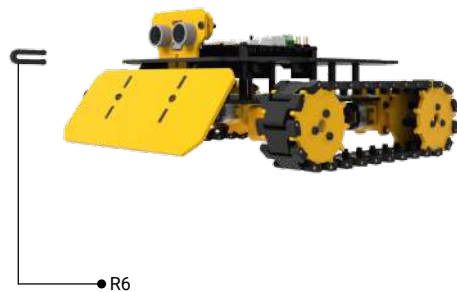
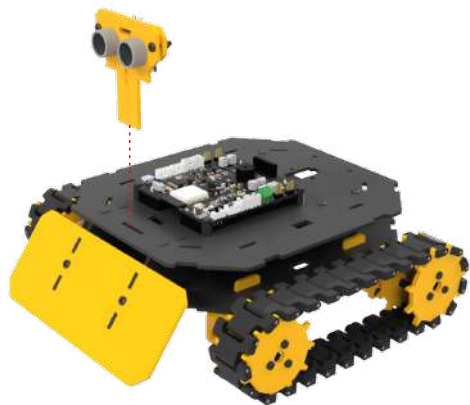
If you encounter any issues with misaligned gears or misaligned holes, we highly recommend flipping the piece as a solution. This straightforward action will effectively resolve the problem.

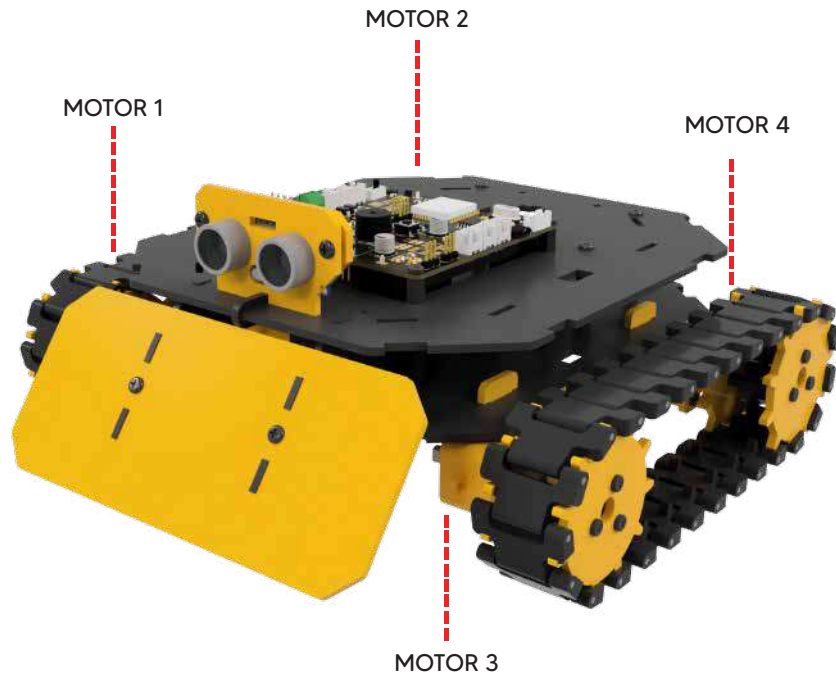




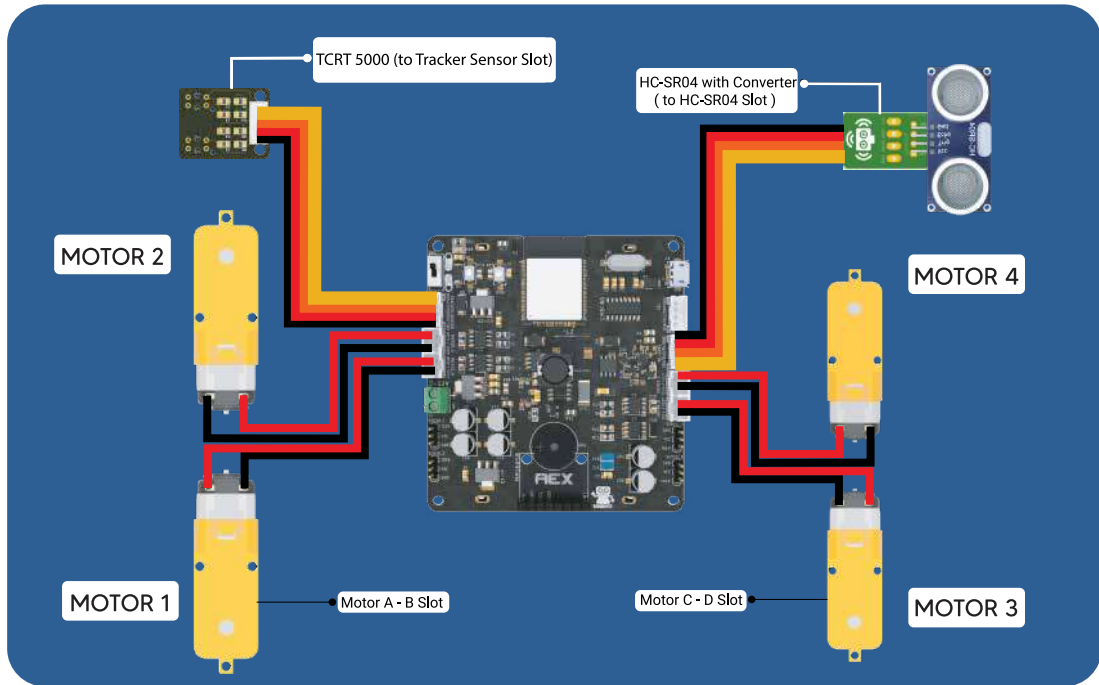
Make sure HC-SR04 pins are facing upward as in the image.



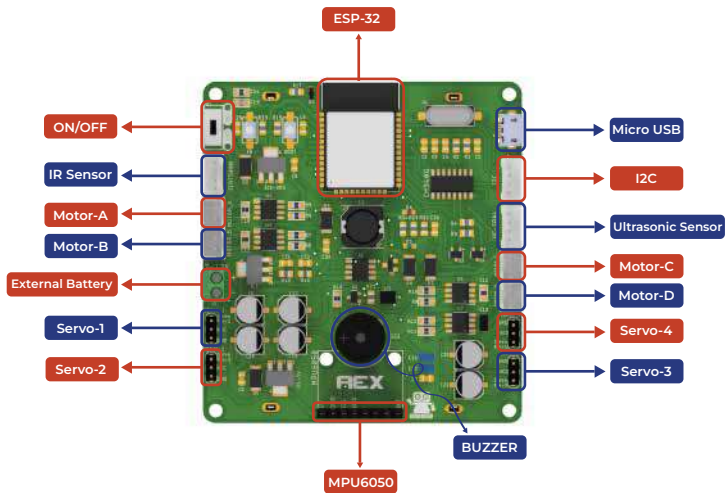




The Circuit Diagram



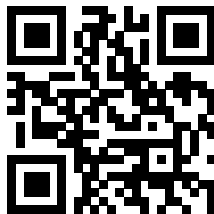
REX Main Board Diagram



Arduino Code

SumoBotino

```
1  #define SensorSol 24 // IR pins
2  #define SensorSag 35 // IR pins
3  int trigPin = 4;    // Trigger
4  int echoPin = 5;    // Echo
5  long duration, cm;
6
7
8  #define MotorA1 15
9  #define MotorA2 23
10
11 #define MotorB1 33
12 #define MotorB2 32
13
14 #define MotorC1 17
15 #define MotorC2 16
16
17 #define MotorD1 27
18 #define MotorD2 14
19
20 #define nId 115
21 #define slow 0
22 #define THRESHOLD 600
23
24 void setup() {
25
26   Serial.begin(115200);
27   pinMode(trigPin, OUTPUT);
28   pinMode(echoPin, INPUT);
29
30   pinMode(SensorSol, INPUT);
31   pinMode(SensorSag, INPUT);
32
33   pinMode(MotorA1, OUTPUT);
34   pinMode(MotorA2, OUTPUT);
35
36   pinMode(MotorB1, OUTPUT);
37   pinMode(MotorB2, OUTPUT);
38
39   pinMode(MotorC1, OUTPUT);
40   pinMode(MotorC2, OUTPUT);
41
42   pinMode(MotorD1, OUTPUT);
43   pinMode(MotorD2, OUTPUT);
44 }
```



Scan the QR code to go to
the whole code and the
necessary libraries.



GitHub

rbt.ist/rexgithub



Rex DOC

rbt.ist/rexrdt



Shop.robotistan/Rex

rbt.ist/rexrdt