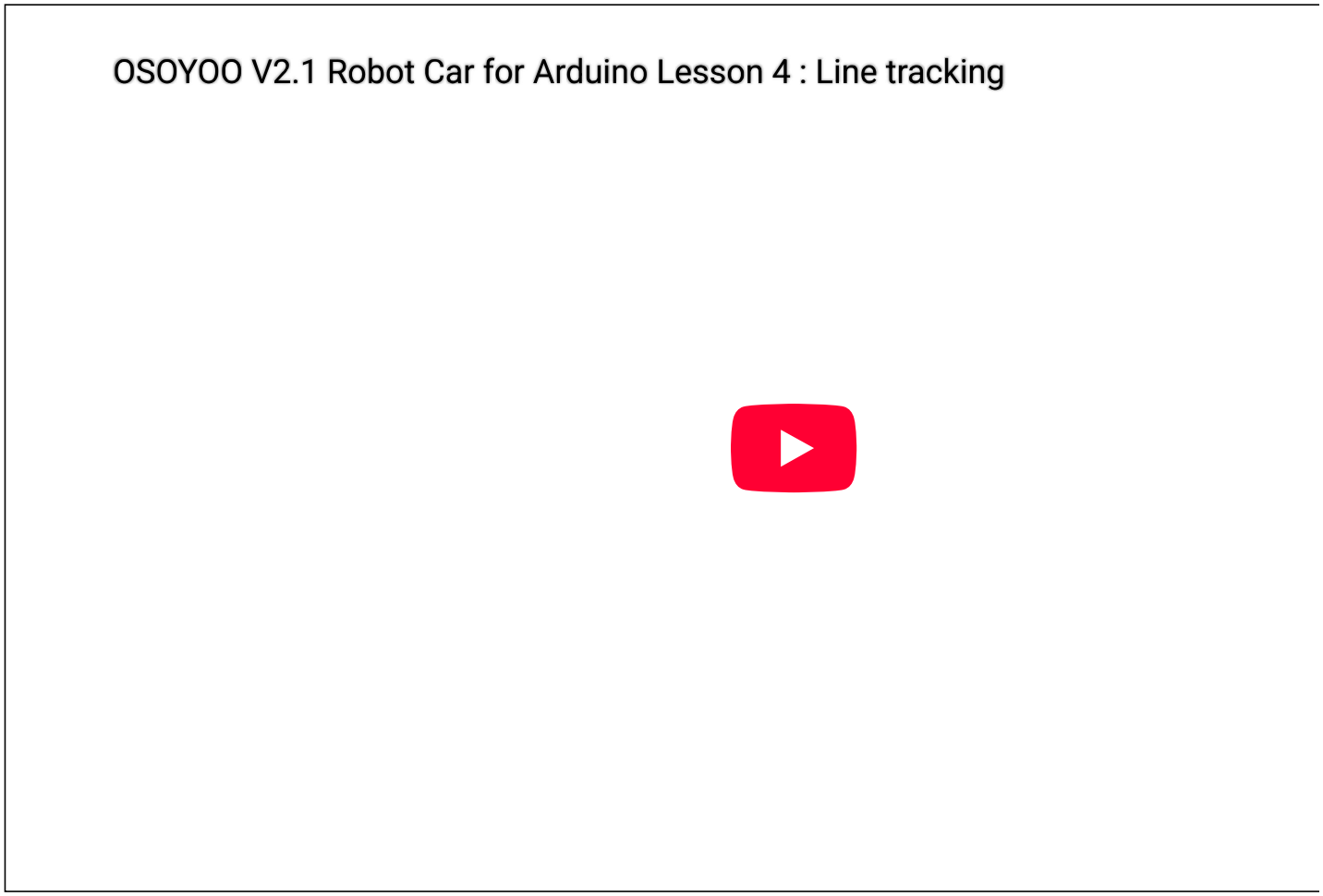
OSOYOO V2.1 Robot car kit Lesson 4: Tracking Line Robot Car

Post Time: 2020-05-12 18:05:30 Category: V2.1 Robot car kit

NOTE: ALL OSOYOO PRODUCTS FOR ARDUINO ARE THIRD PARTY BOARD WHICH IS FULLY COMPATI
ARDUINO



Authorized Online Retailers

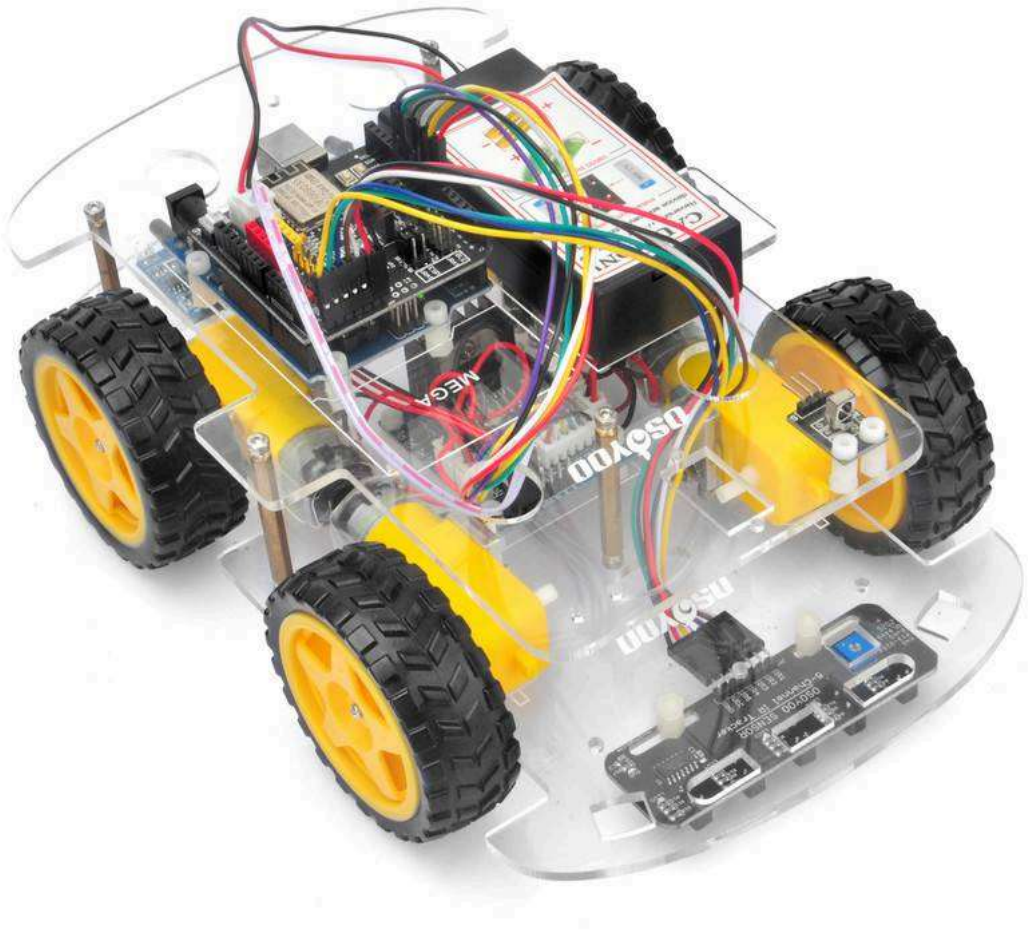
Where to buy the set with 18650 batteriese and USB charger

Buy from OSOYOO	Buy from US	Buy from UK	Buy from DE	Buy from IT	Buy from FR	Buy from ES	E
OSOYOO Store	BUY NOW	BUY NOW	BUY NOW	BUY NOW	BUY NOW	BUY NOW	

Buy the V2.1 Robot car without Battery and charger:

Buy from OSOYOO	Buy from US	Buy from UK	Buy from DE	Buy from IT	Buy from FR	Buy from ES	E
OSOYOO Store	BUY NOW	BUY NOW	BUY NOW	BUY NOW	BUY NOW	BUY NOW	

Objective:



In this lesson, we will add 5 channel black/white tracking sensor module to the framework built in Lesson 1. If you have n completed installation in Lesson 1, please review Lesson 1

The software in this lesson will read data from these 5 channel black/white tracking sensor module and automatically guic car to move along the black track line in the white ground.

Parts and Devices:

No.	Picture	Device	Qty.	Accessories	Link
1		Tracking sensor module	1	M3 Plastic Screw x 2 M3 Plastic Nut x2 M3 Plastic Pillar x 2	Click here to buy

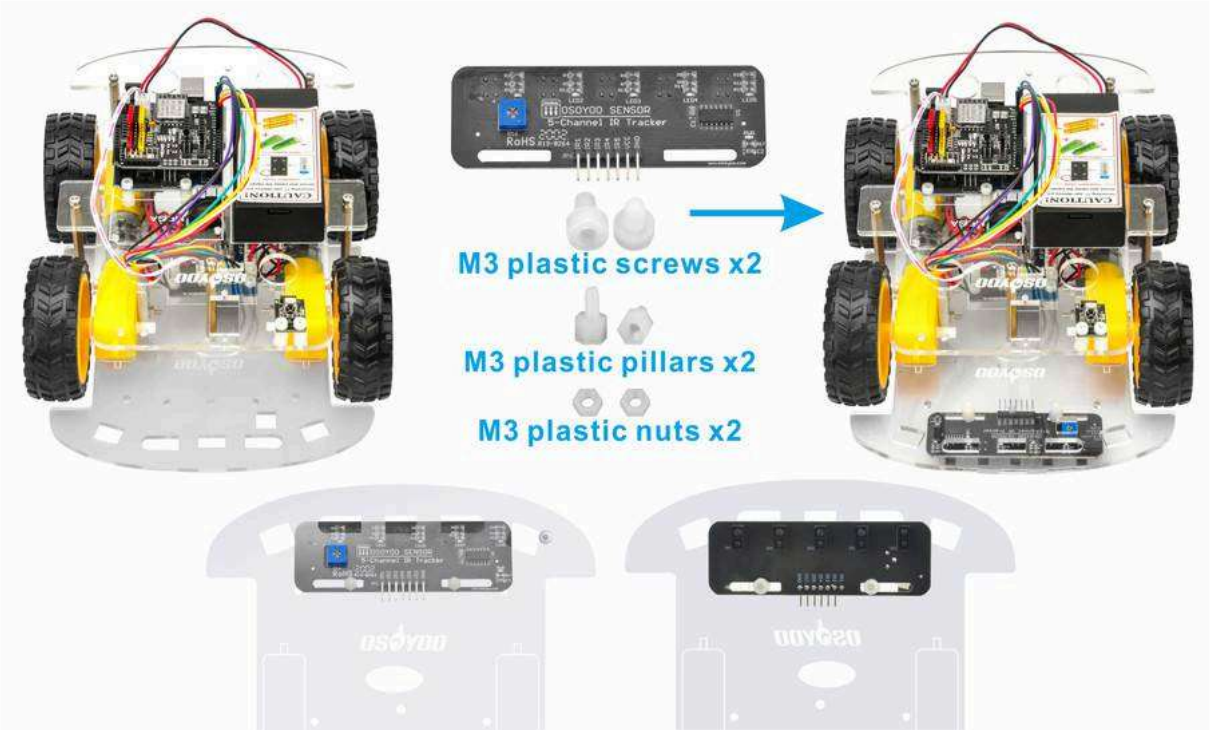
2		7pin 25cm Female to Female Cable	1		Click here to buy
3		Philips screwdriver	1		Click here to buy
4		Hex Screwdriver	1		Click here to buy
5		M3 plastic screw	2		
6		M3 plastic pillar	2		
7		M3 plastic nut	2		

Hardware Installation:

Step 1: Motor driver(Model-X)pin installation.

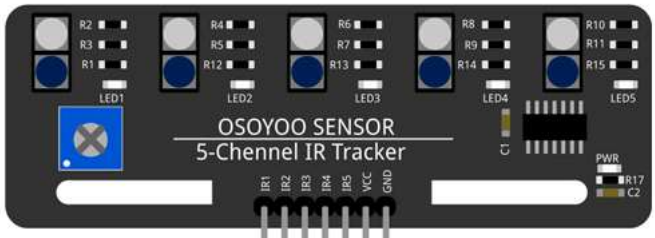
Start the installation from previous status of Smart Car Lesson 1 . If you have installed Lesson 2 or 3, you must remove tl which you connected in lesson2 and lesson3.

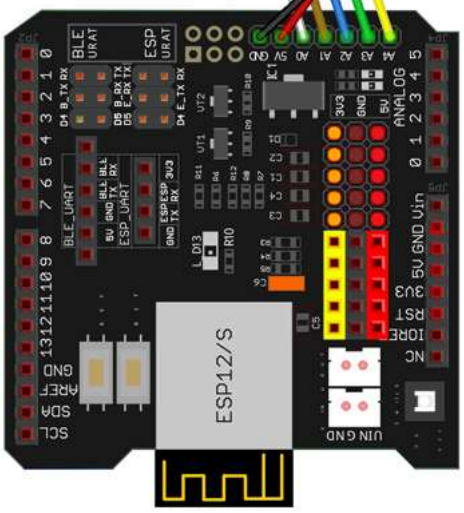
Step 2: Install tracking sensor modules under lower car chassis with 2pcs M3 plasctic screws, M3 plastic pillars and M3



Step 3: Connect GND-VCC pin of tracking sensor module to GND-5V of OSOYOO Uart WiFi shield V1.3; connect IR1, II IR4, IR5 pins to A0, A1, A2, A3, A4 with 7pin 25cm female to female cable as the following photo shows (Remember : DC remove any existing wires installed in Lesson 1):

Tracking sensor module





OSOYOO Uart WiFi shield V1.3

7pin 25cm Female to Female Cable

Tracking sensor module	IR1	IR2	IR3	IR4	IR5	VCC	GND
Color	White	Ochre	Blue	Green	Yellow	Red	Black
OSOYOO Uart Wifi shield V1.3	A0	A1	A2	A3	A4	5V	GND

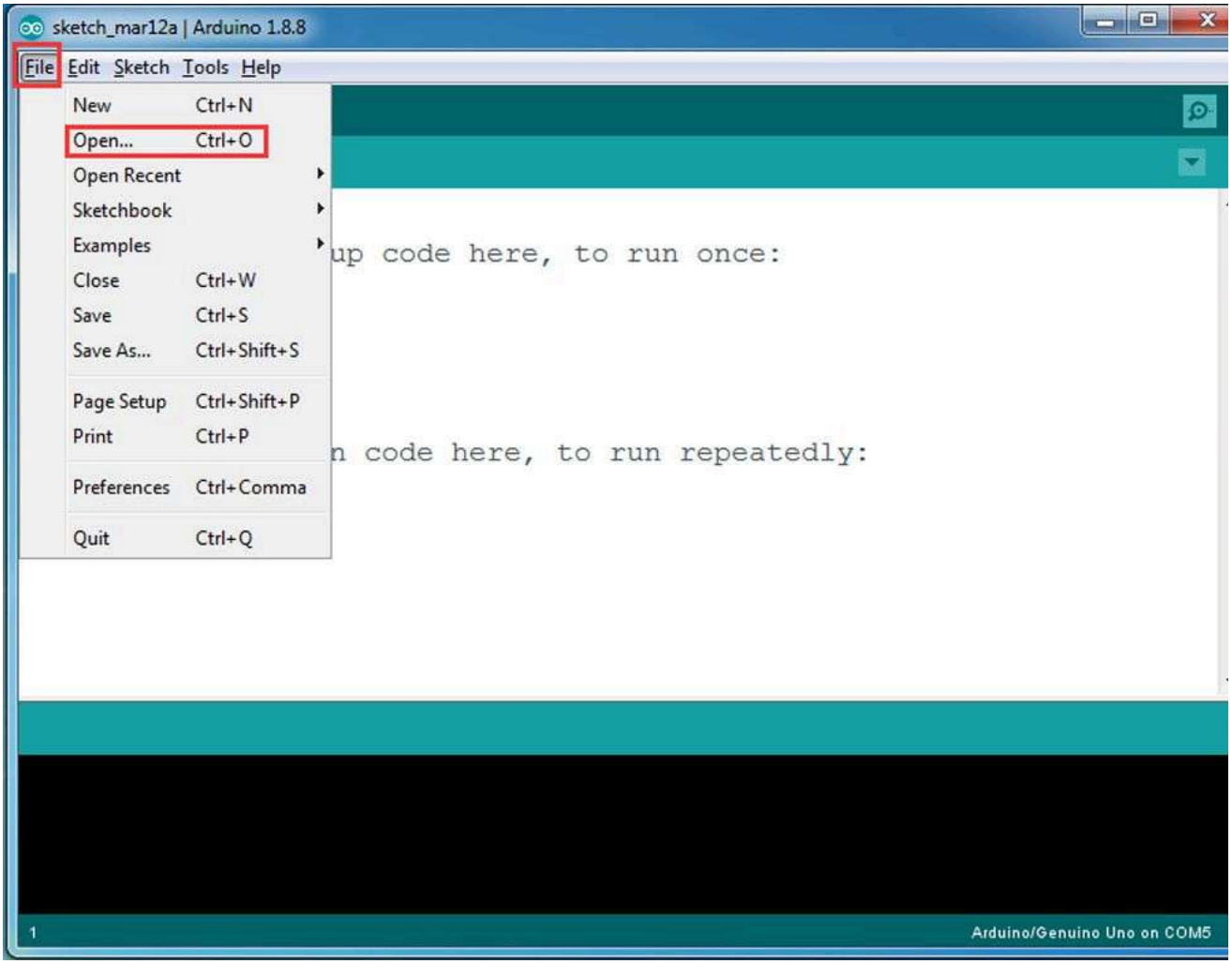
Software Installation:

Open-source Arduino Software(IDE)		Download IDE here: https://www.arduino.cc/en/Main/Software?setlang=en
7 zip is a free zip utility that un-zips zip files		Download 7zip here for free https://www.7-zip.org/

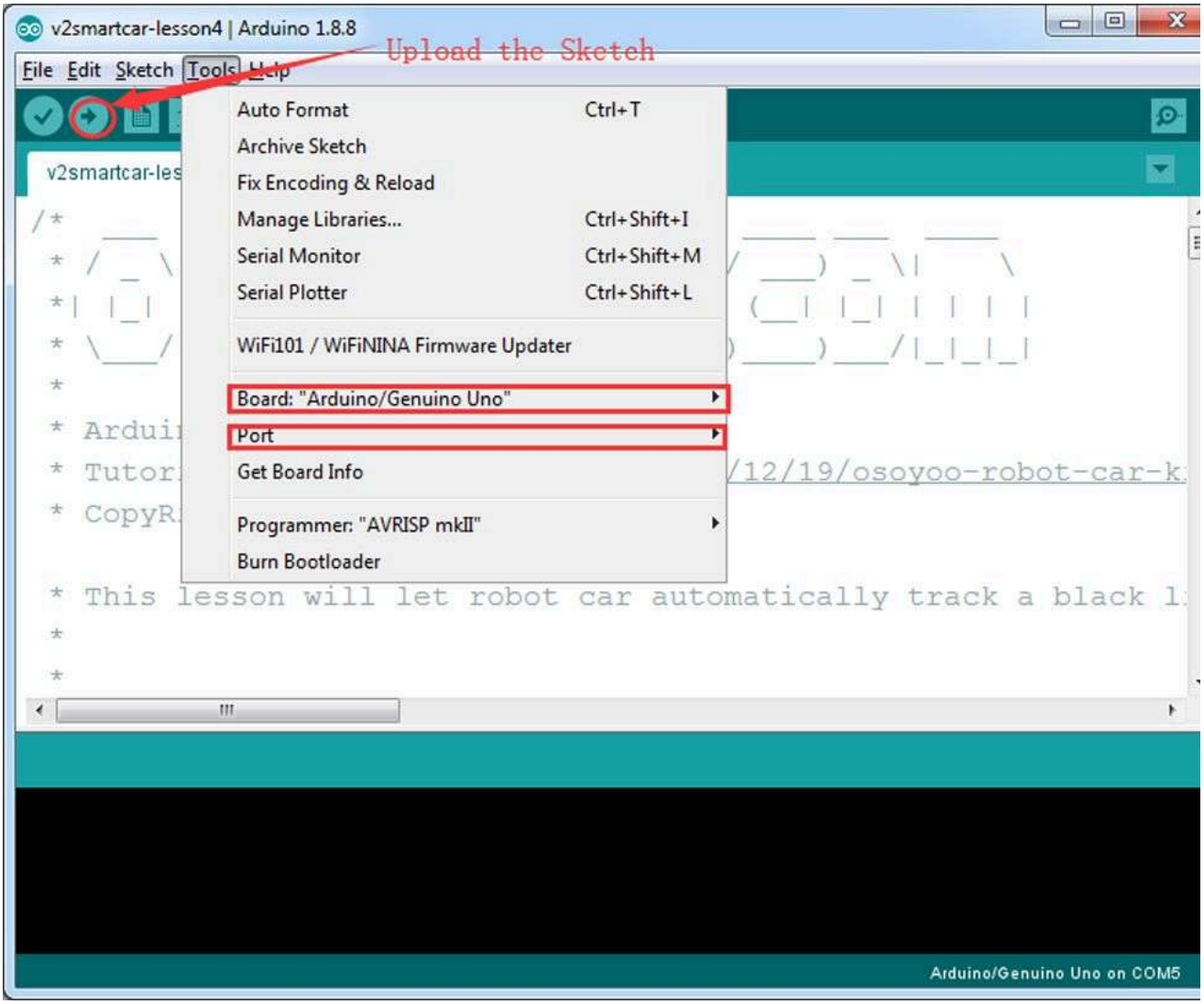
Step 1: Install latest IDE (If you have IDE version after 1.1.16, please skip this step). Download IDE from https://www.arduino.cc/en/Main/Software?setlang=en , then install the software.

Step 2: Download Lesson 4 tracking smart car sample code from v2smartcar-lesson4 , unzip the download zip file smart lesson4.zip, you will see a folder called smartcar-lesson4B .

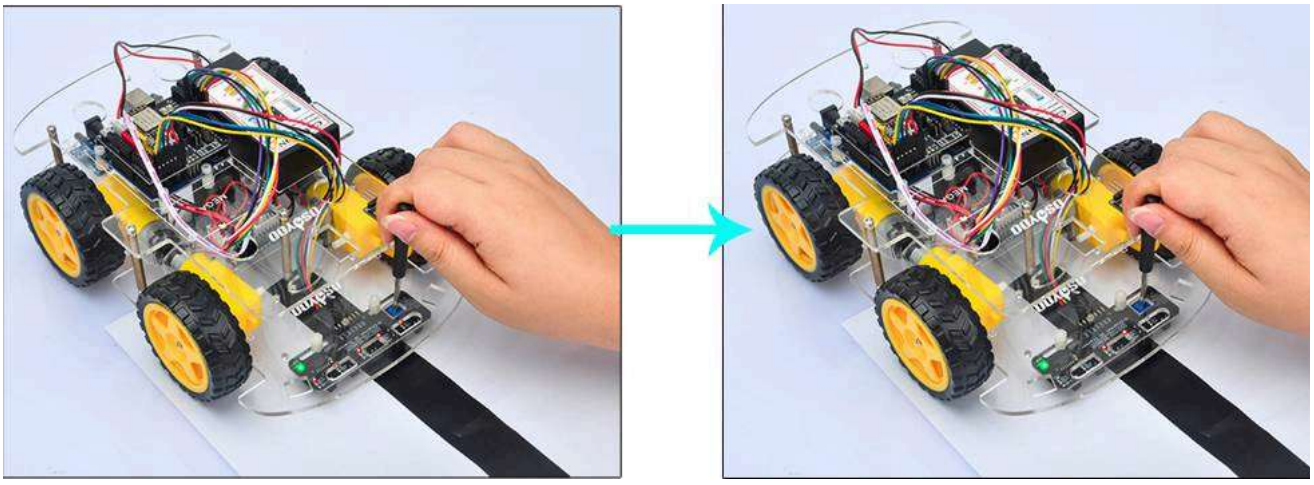
Step 3: Connect OSOYOO basic board to PC with USB cable, Open IDE -> click file -> click Open -> choose code “sma lesson4.ino” in smartcar-lesson4 folder, load the code into your board.



Step 4: Choose corresponding board/port for your project,upload the sketch to the board.



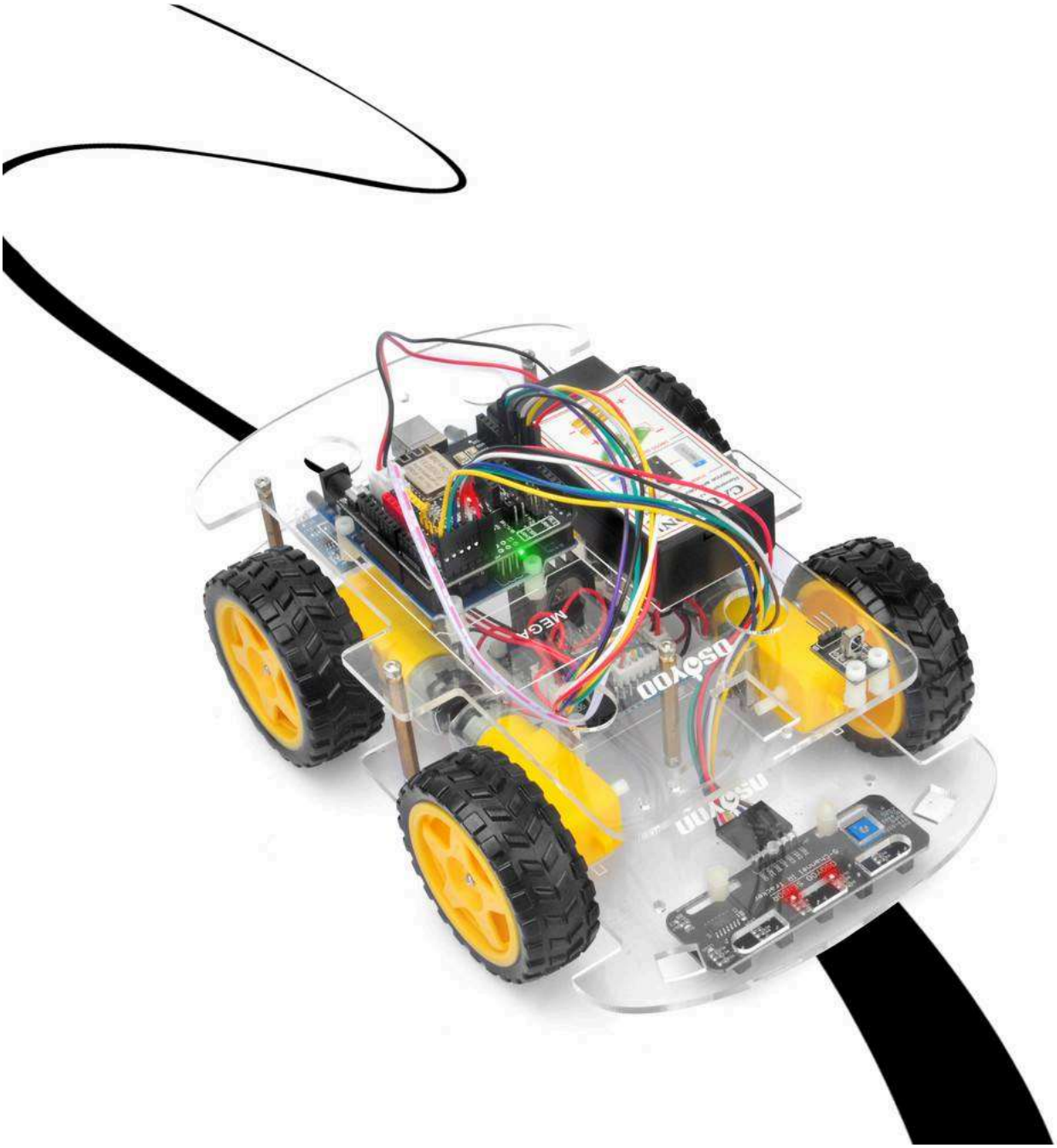
Step 5: Adjust the sensitivity of tracking sensor modules. Turn on and hold the car and adjust the potentiometer on the tr sensor with Philips screwdriver until you get the best sensitivity status: the signal indicate LED light will turn on when sen black track, and the signal LED will turn off when the sensor is above white ground



Testing:

Prepare a black track (the width of the black track is more than 20mm and less than 30mm) in white ground. Please note angle of track can't be larger than 90 degree. If the angle is too large, the car will move out of the track.

Turn on the car and put the middle of tracking sensor module facing over black track, and then the car will move along th track.



PREVIOUS LESSON ROBOT CAR V2 HOME NEXT LESSON

DownLoad Url : osoyoo.com

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