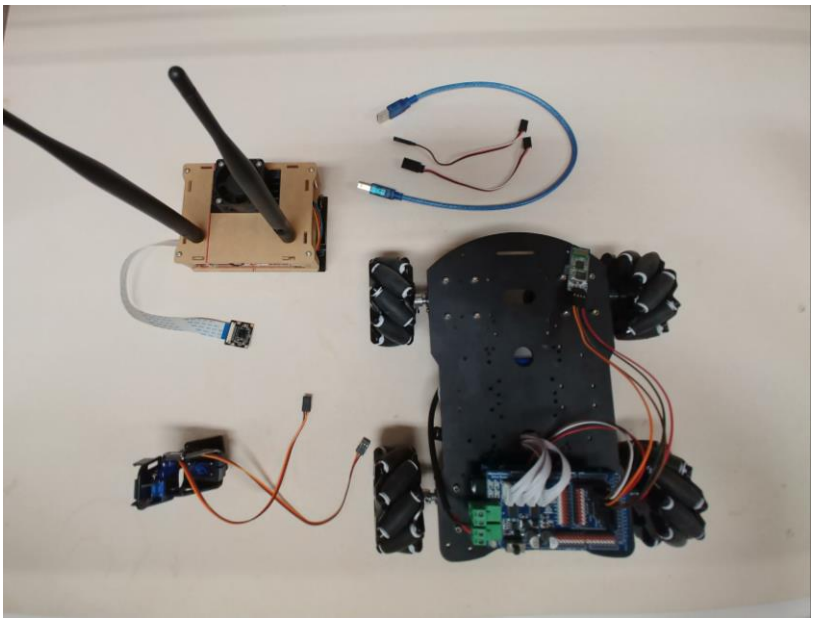
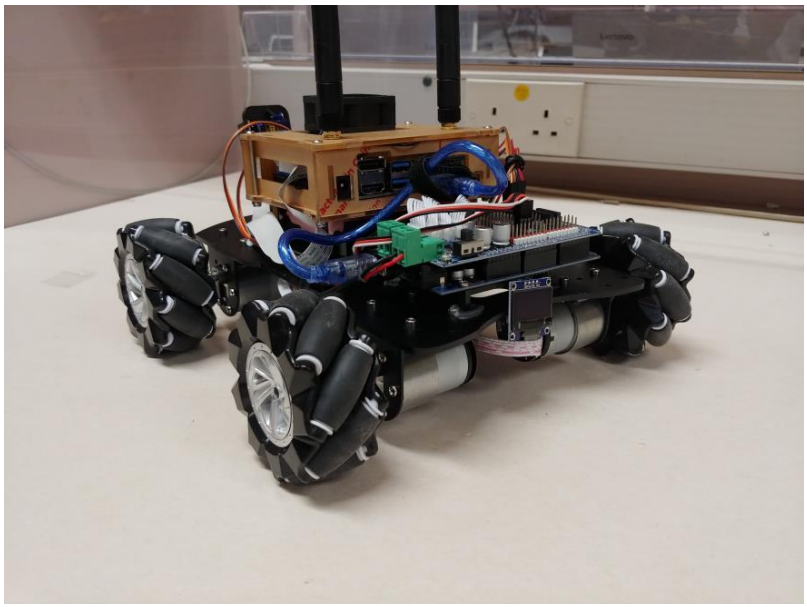
Full Vehicle Assembly

Overview:

Before



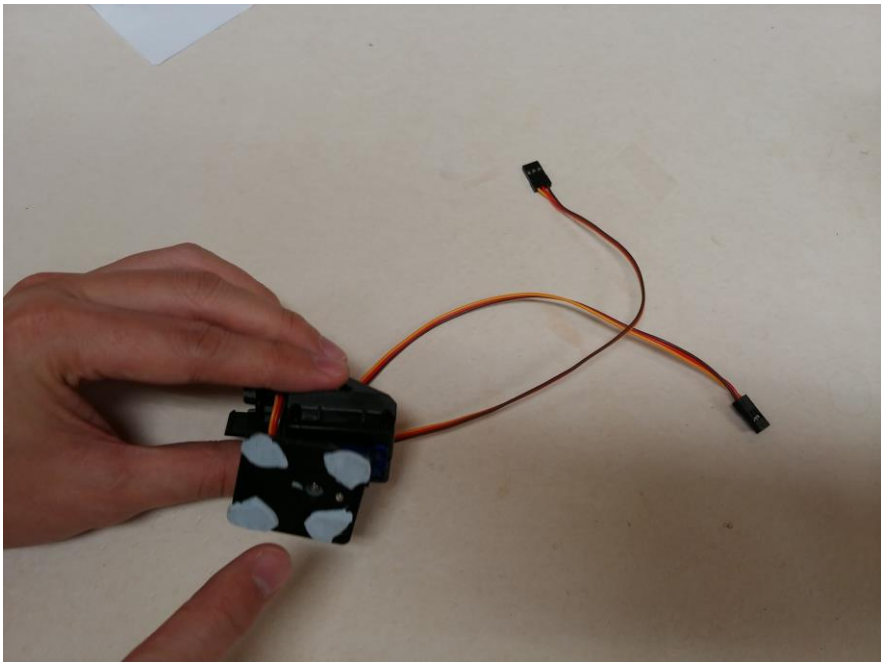
After

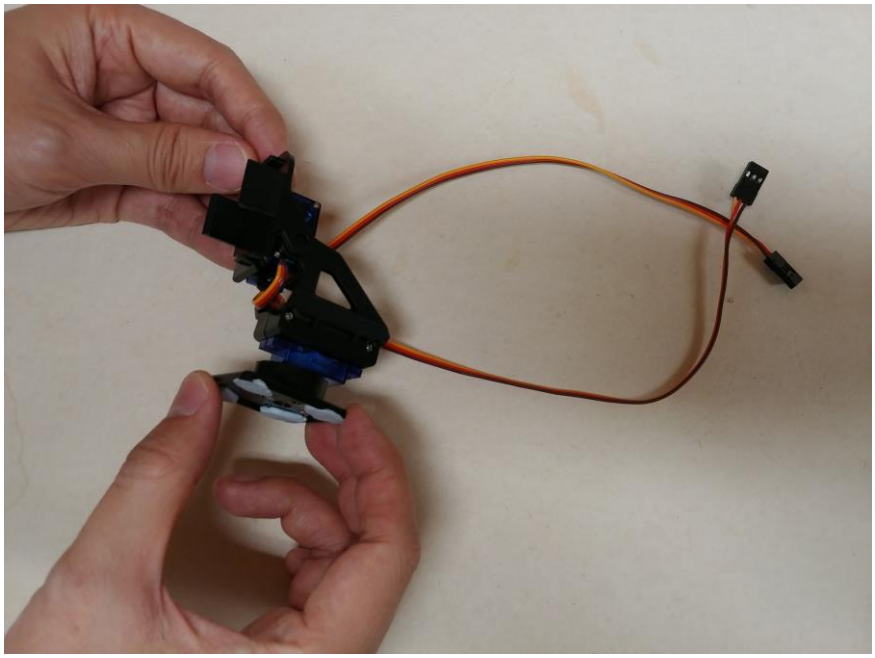


1. Servo & Camera Stand Assembly

Step 1.1

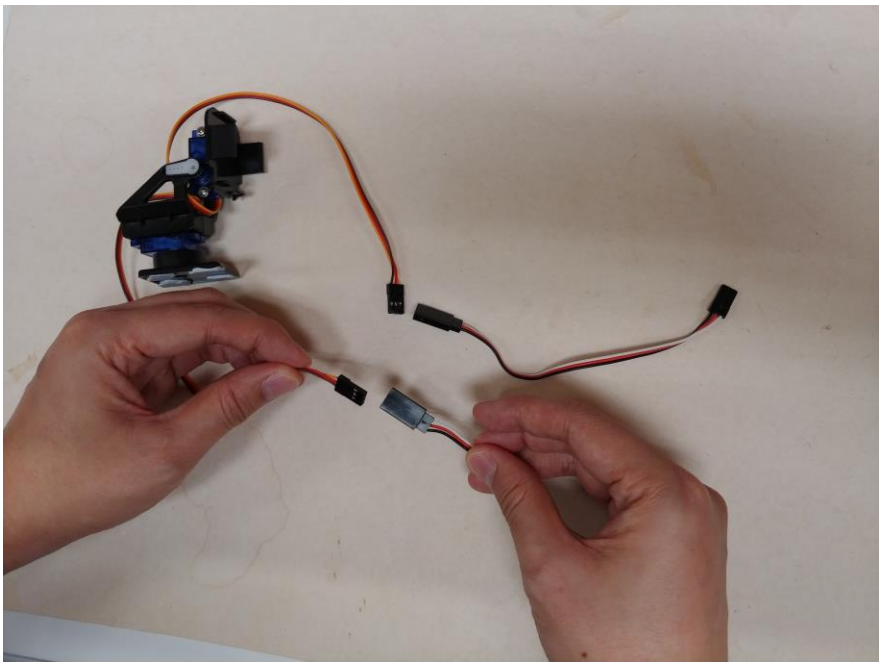
Adhere Bluetack to the bottom of the gimbal as shown below.





Step 1.2

Extend the servo motors’ cables with the cable extenders.

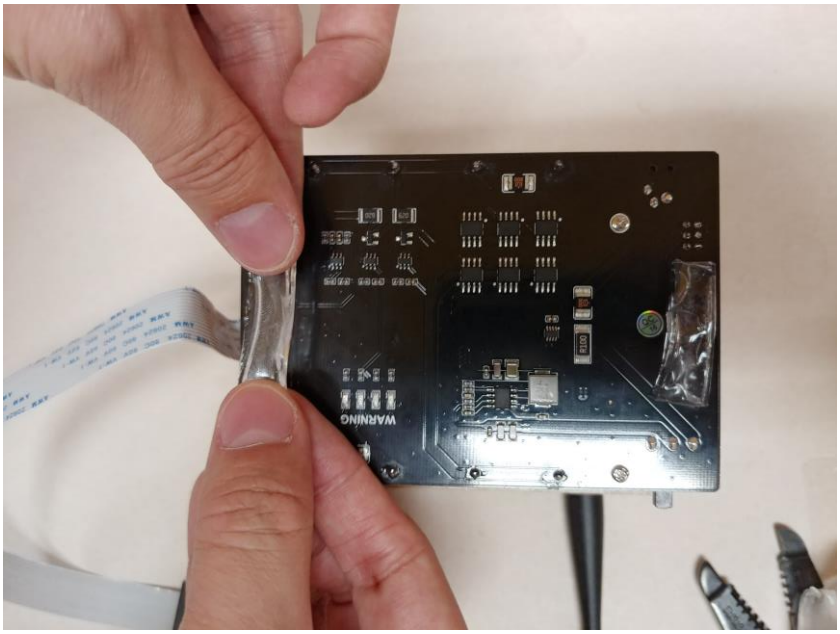


2. Assemble Power Module

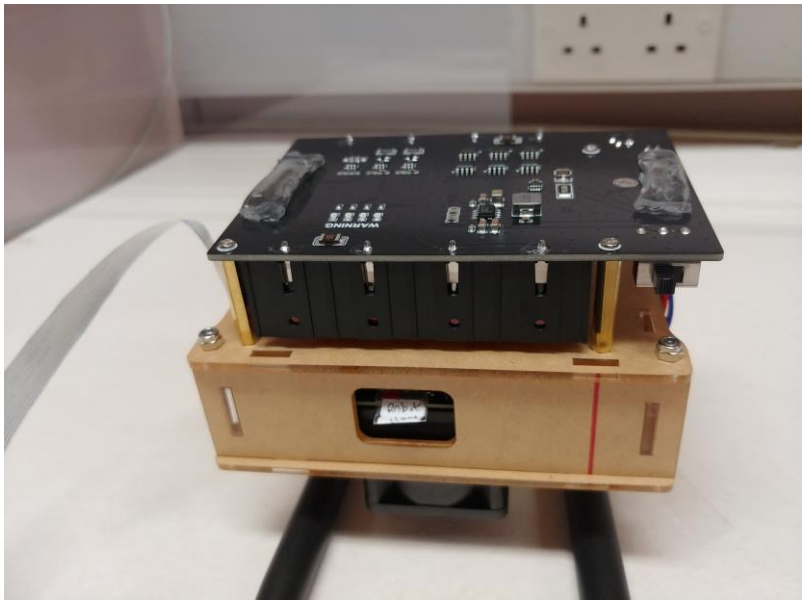
Step 2.1

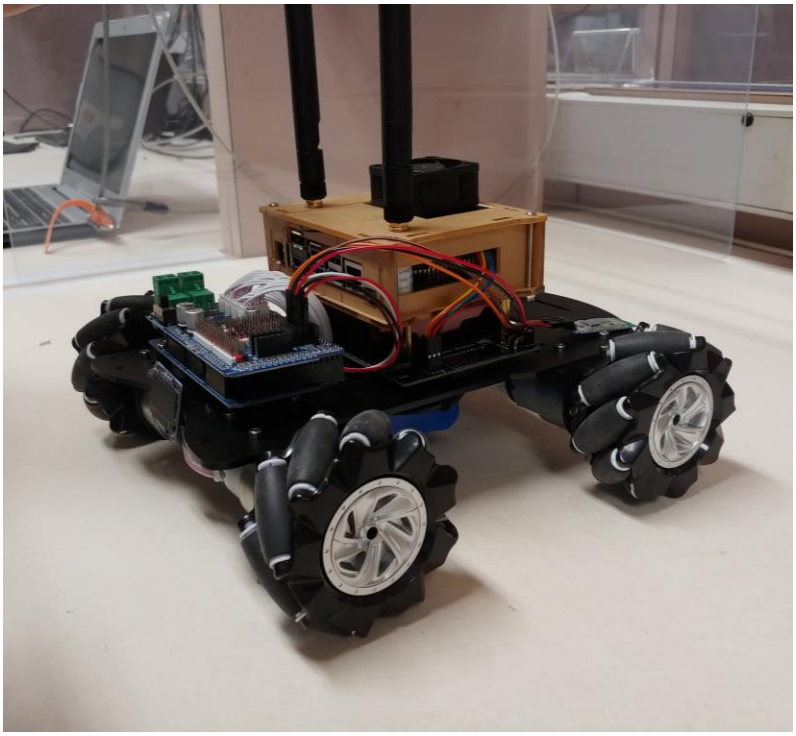
Apply gel adhesive Tape to the bottom of the UPS Power Supply. Fold the Mileqi Adhesive Tape (clear tape) 3 times to prevent the components at the bottom of the UPS Power Supply from getting into contact with the vehicle's metal frame and stick the Nano onto the vehicle's frame as shown below.

Warning: Do not stick the Tape onto the UPS Power Supply's components.



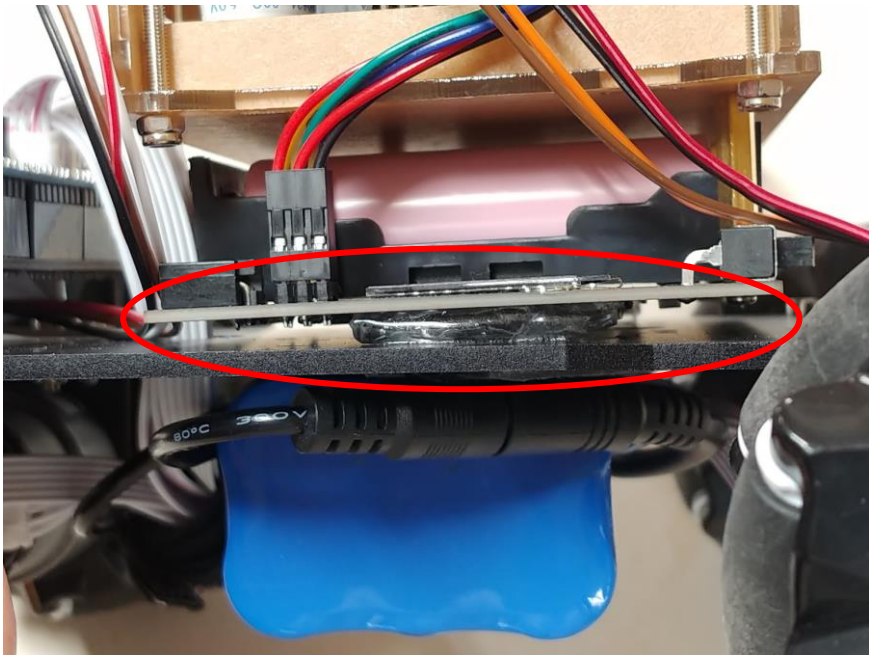
The clear tape is thick enough that none of the components will touch the metal car frame.

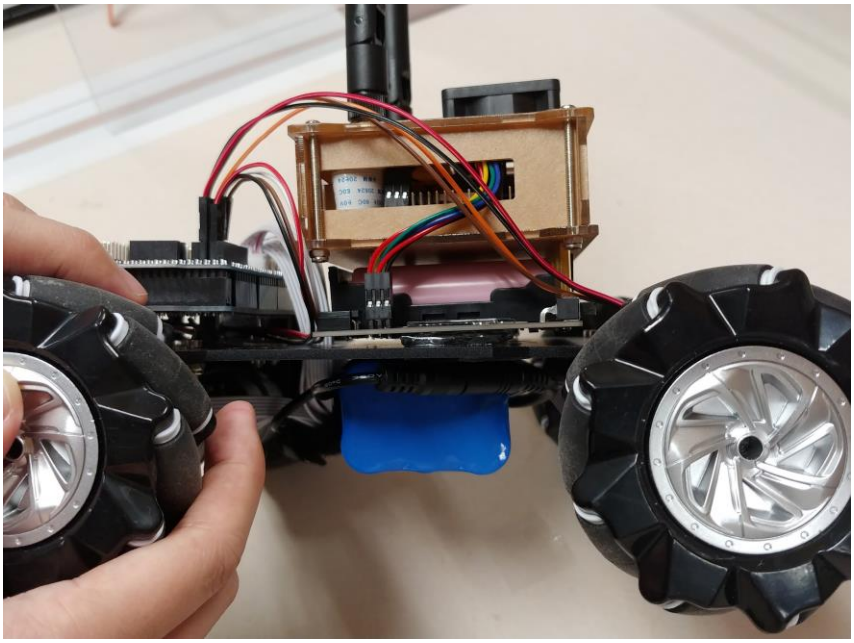




Step 2.2

Double check that the UPS Power Supply’s components are not in contact with the vehicle’s metal body.





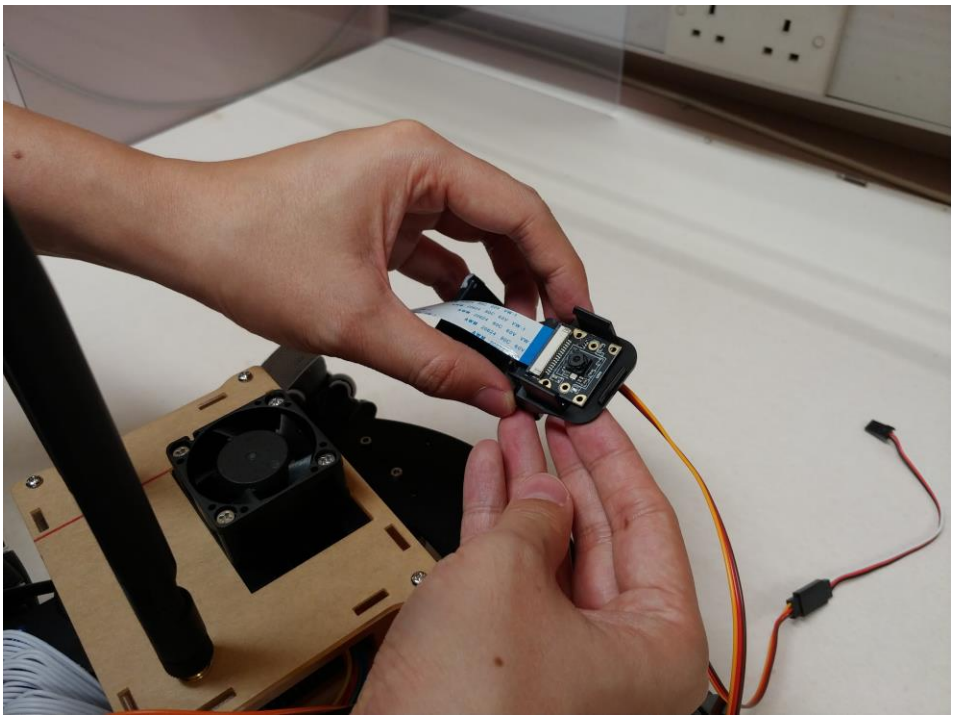
3. Assemble the Camera Arm

Step 3.1

Adhere some Bluetag to the back of the camera module.

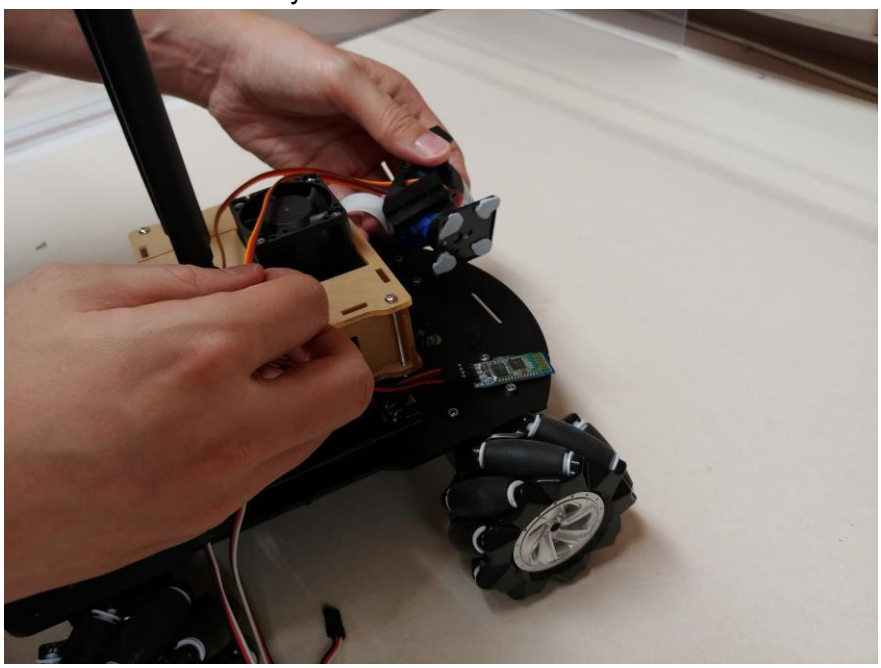
Step 3.2

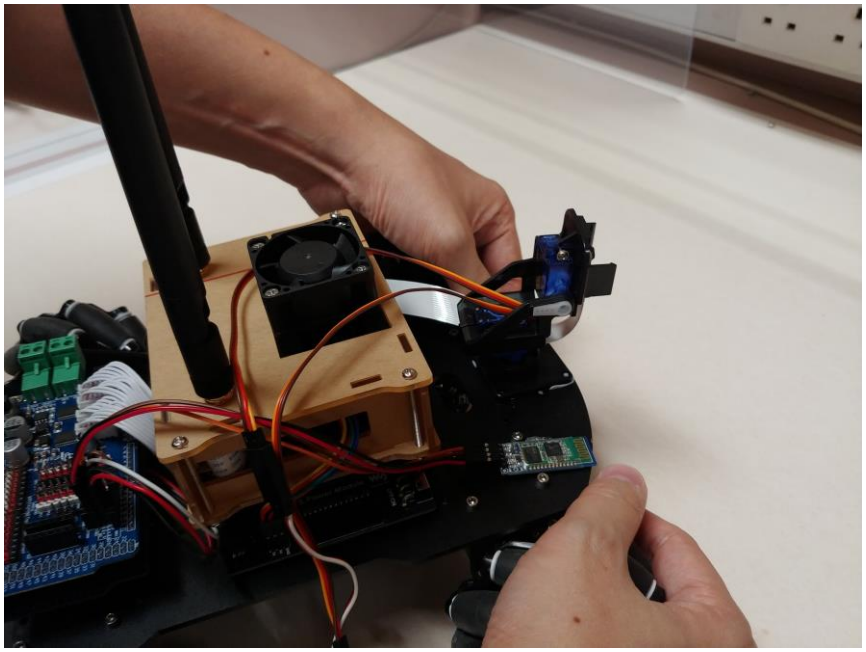
Stick the camera module onto the gimbal.



Step 3.3

Stick the gimbal onto the vehicle’s body.





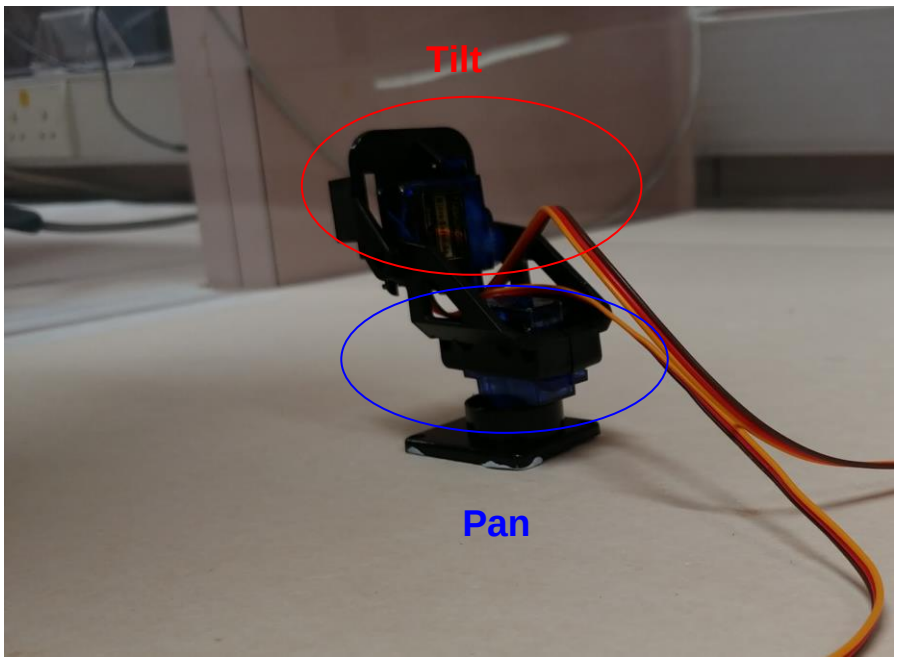
Step 3.4

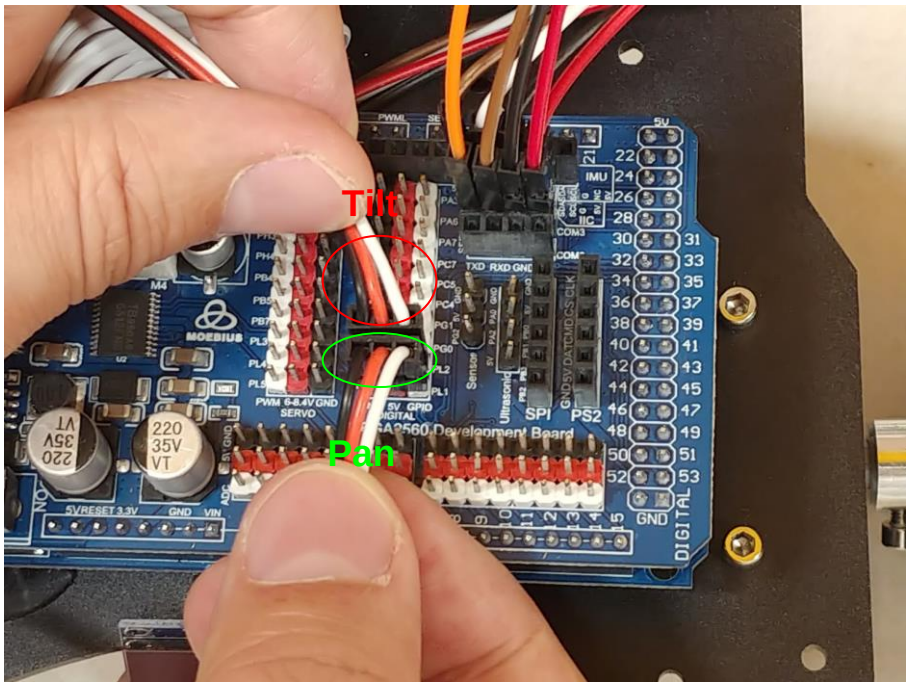
Connect the servo motors to the Arduino Mega.

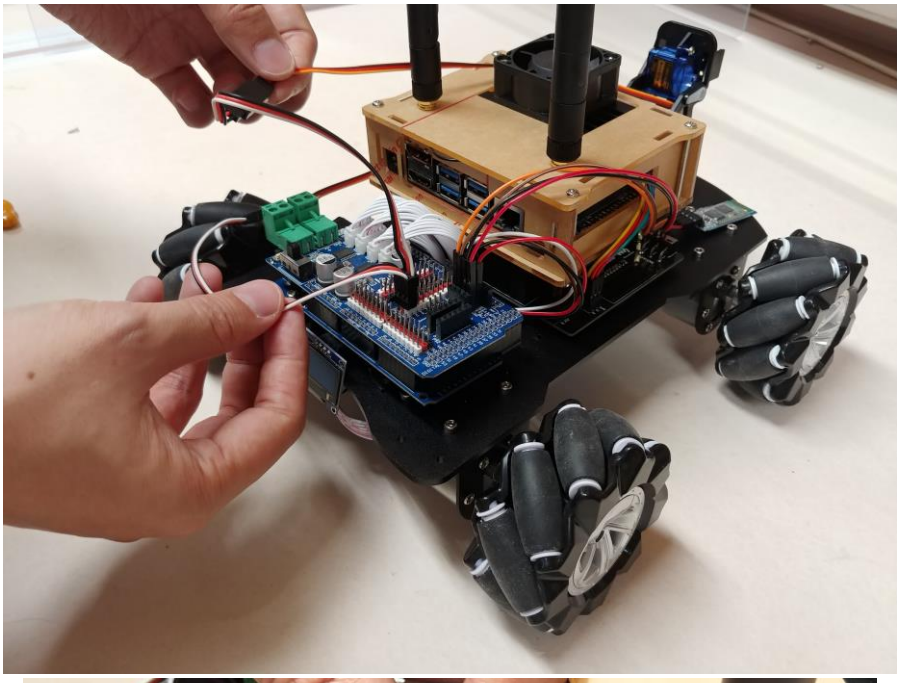
Pan servo to row PL1
Tilt servo to row PL2

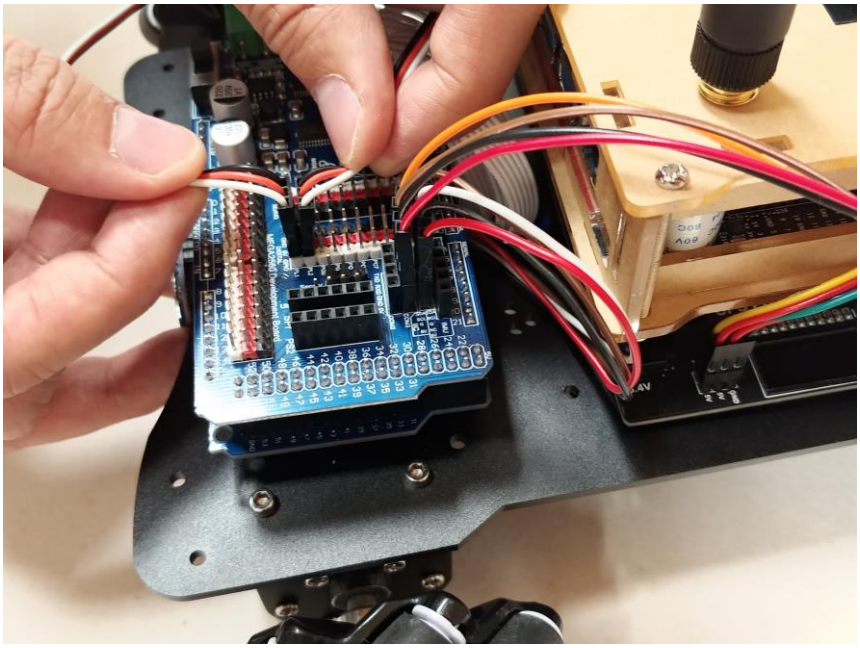
Warning: Do not reverse the connections.

White = GPIO
Red = 5V
Black = GND





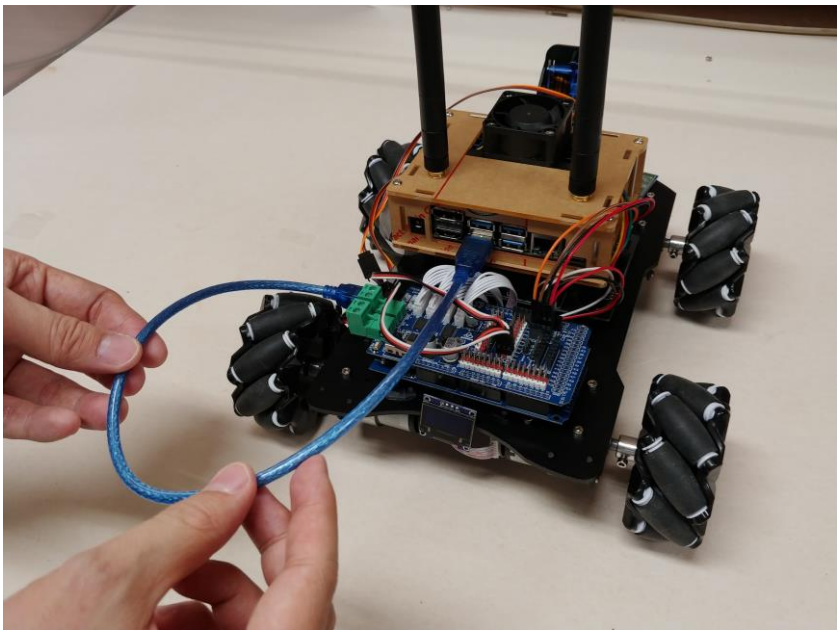




4. Finishing Steps

Step 4.1

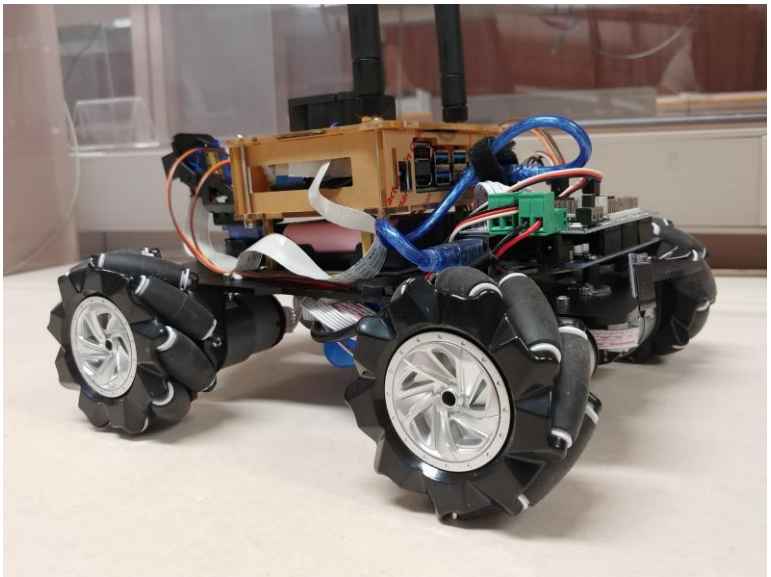
Connect the USB cable as shown below.

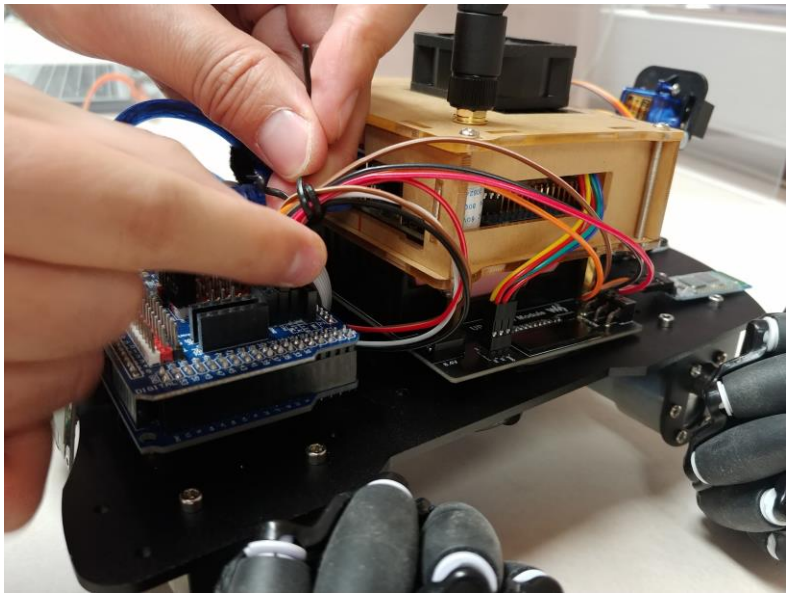


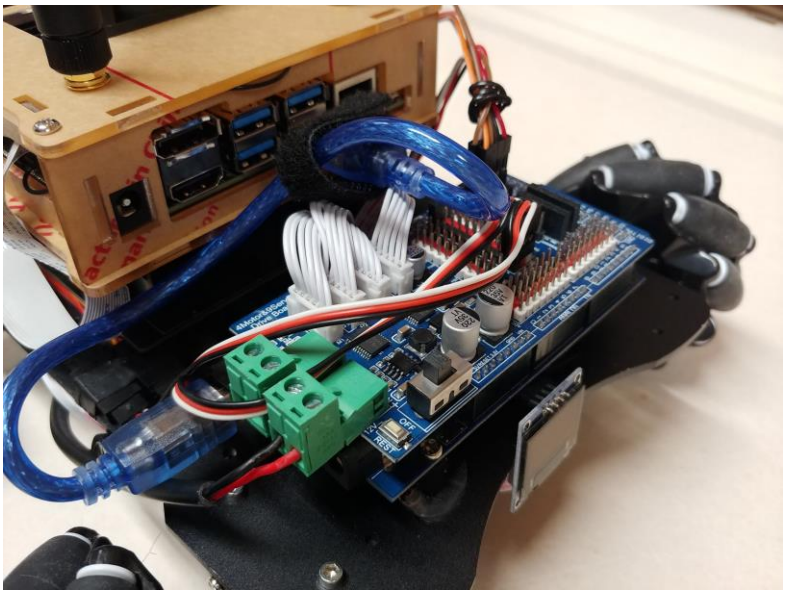
Step 4.2

Tidy the cables as shown below.

Warning: Secure the OLED and Bluetooth module's cables using bluetag or velcro as shown below to ensure that the pins will not arbitrarily fall out.







Your finished product should look like this. Please ask the TA to take a look. Do not turn on the robot. Thanks.