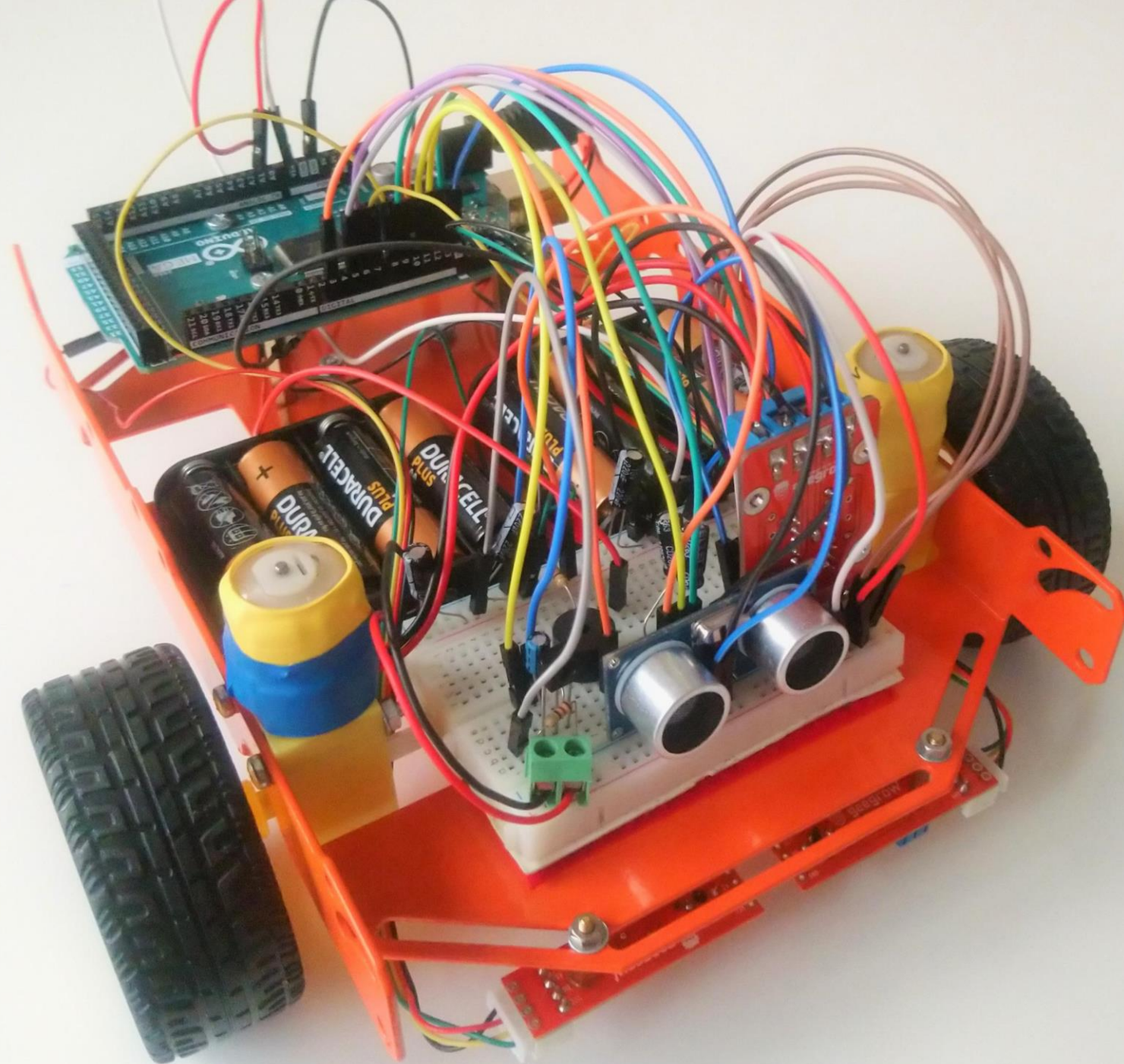


# IR remotely controlled 2-wheel robot with 9 behaviours



Made by Vitaly Okolelov

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GitHub: <https://github.com/OkolelovV>

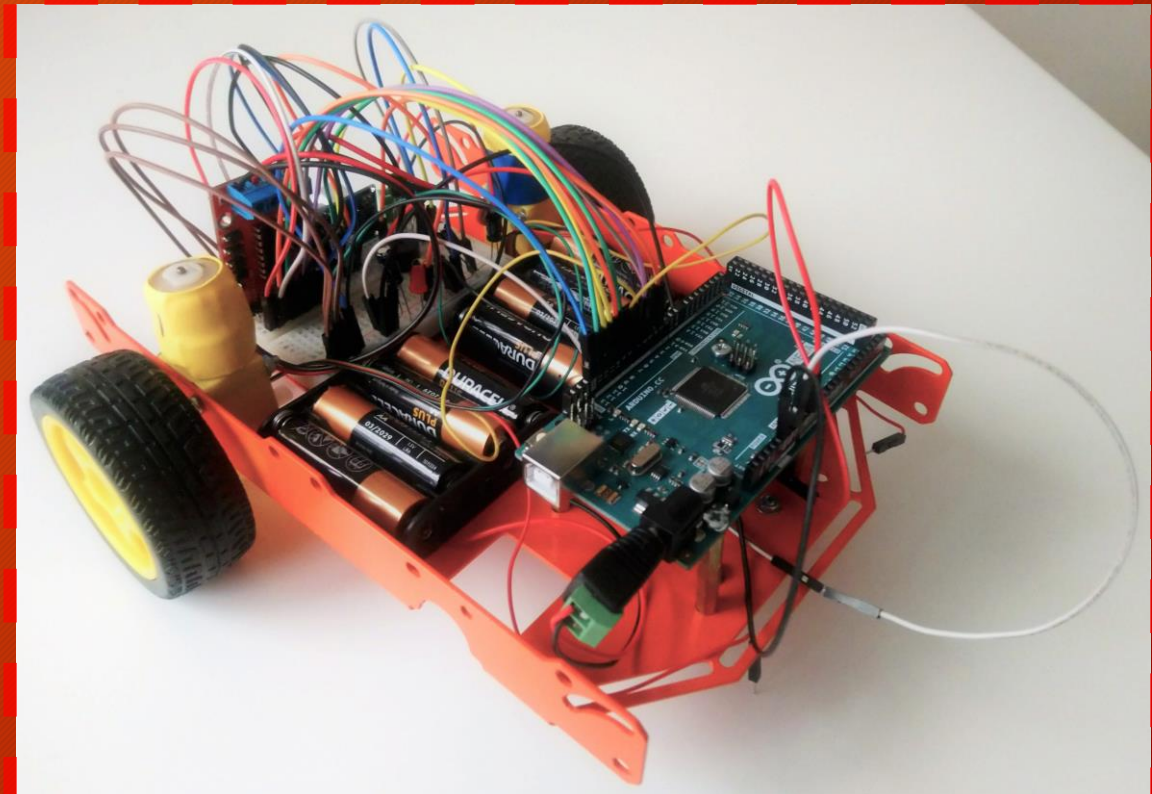
LinkedIn: <https://www.linkedin.com/in/vitaly-okolelov-715699194/>



# Functions

Switch among the functions using remote

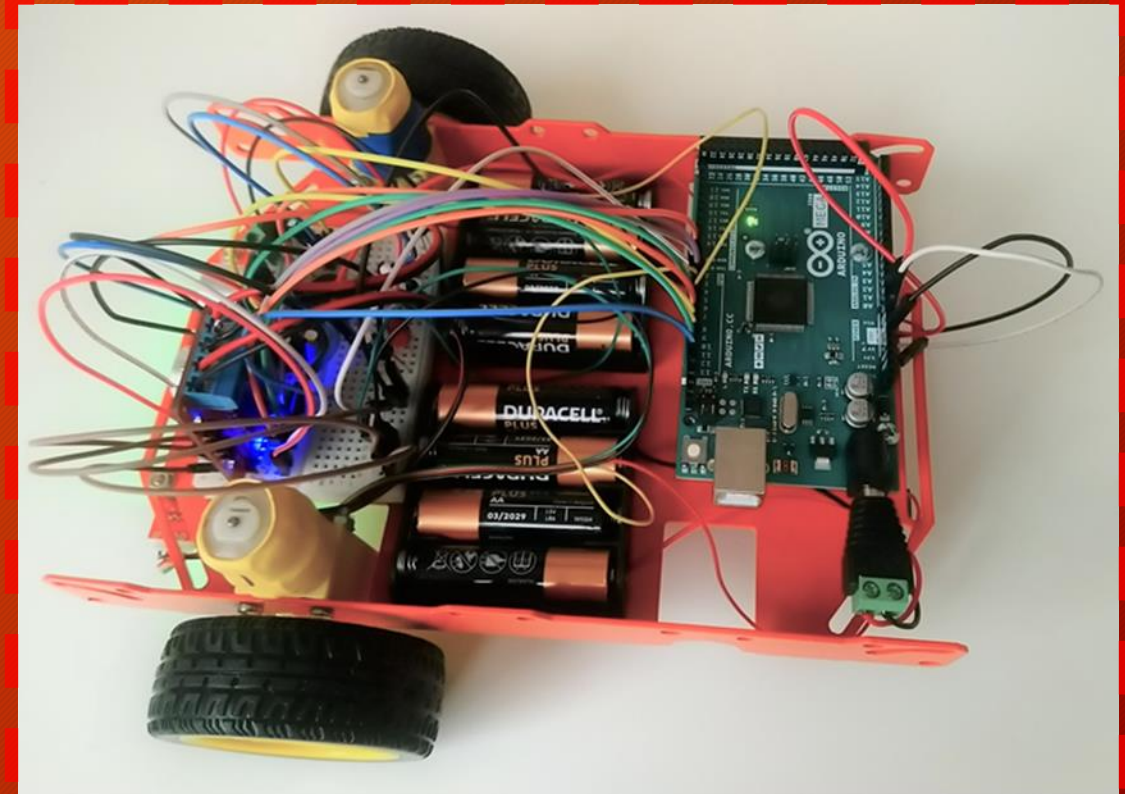
1. Race: manual control using direction keys of the IR remote control
2. Inverted Race: inverted manual control using direction keys of the IR remote control
3. Line tracking: robot follows a black line and turns around if there is an obstacle
4. Exploring: random exploring the area with avoiding obstacles in front of the robot
5. Closest object: searching for the closest to the robot object





# Functions

6. Automatic "lawn mower": staying inside an area surrounded by a black line
7. "Treasure" search: searching for black square inside an area surrounded by a black line
8. Parking game: player required to park the robot quickly at a certain distance several times
9. Hand commands: hand stays near the robot for 2 s – keeping a 10 cm distance to the hand, hand quickly appears 2 times – clockwise rotation, 3 times – anticlockwise rotation





# Components: control, power, and actuators



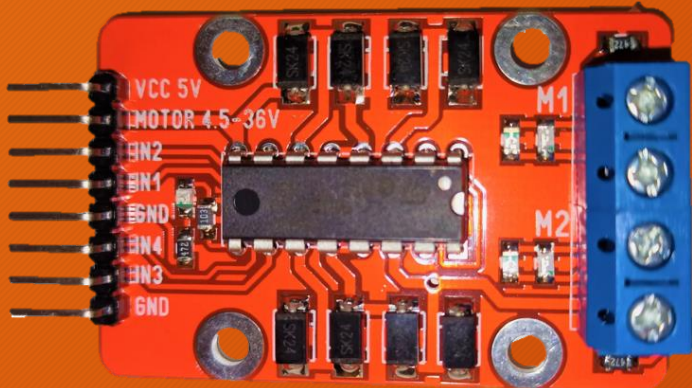
Microcontroller  
Arduino Mega



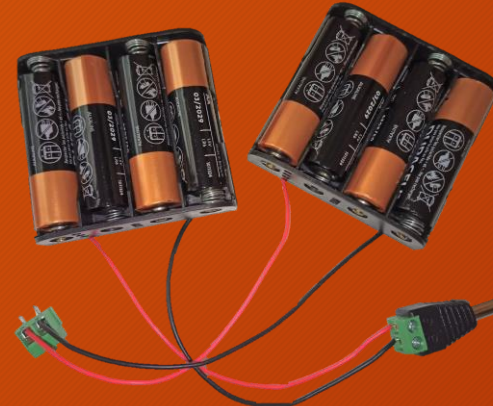
TT Motor  $\times 2$



Motor Driver  
L293D



4 AA battery  
holder  $\times 2$

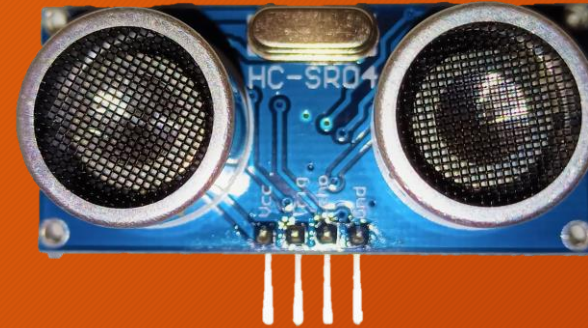




# Components: sensors

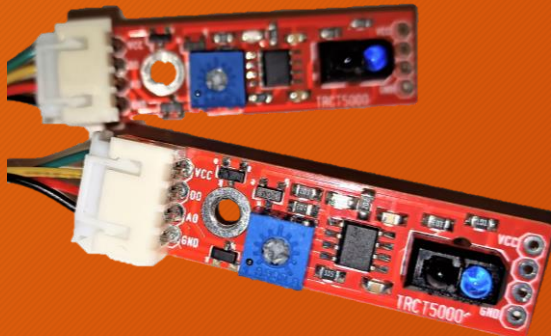


Infrared Receiver



Ultrasonic  
Sensor  
HC-SR04

Line Tracking  
IR Sensor  
TCRT5000  $\times 2$



Infrared Transmitter  
Remote



# Components: additional



120  $\Omega$  and 240  $\Omega$   
Resistors



Passive Buzzer



Red LED



1  $\mu$ F and 200  $\mu$ F  
Capacitors





Thank you!

