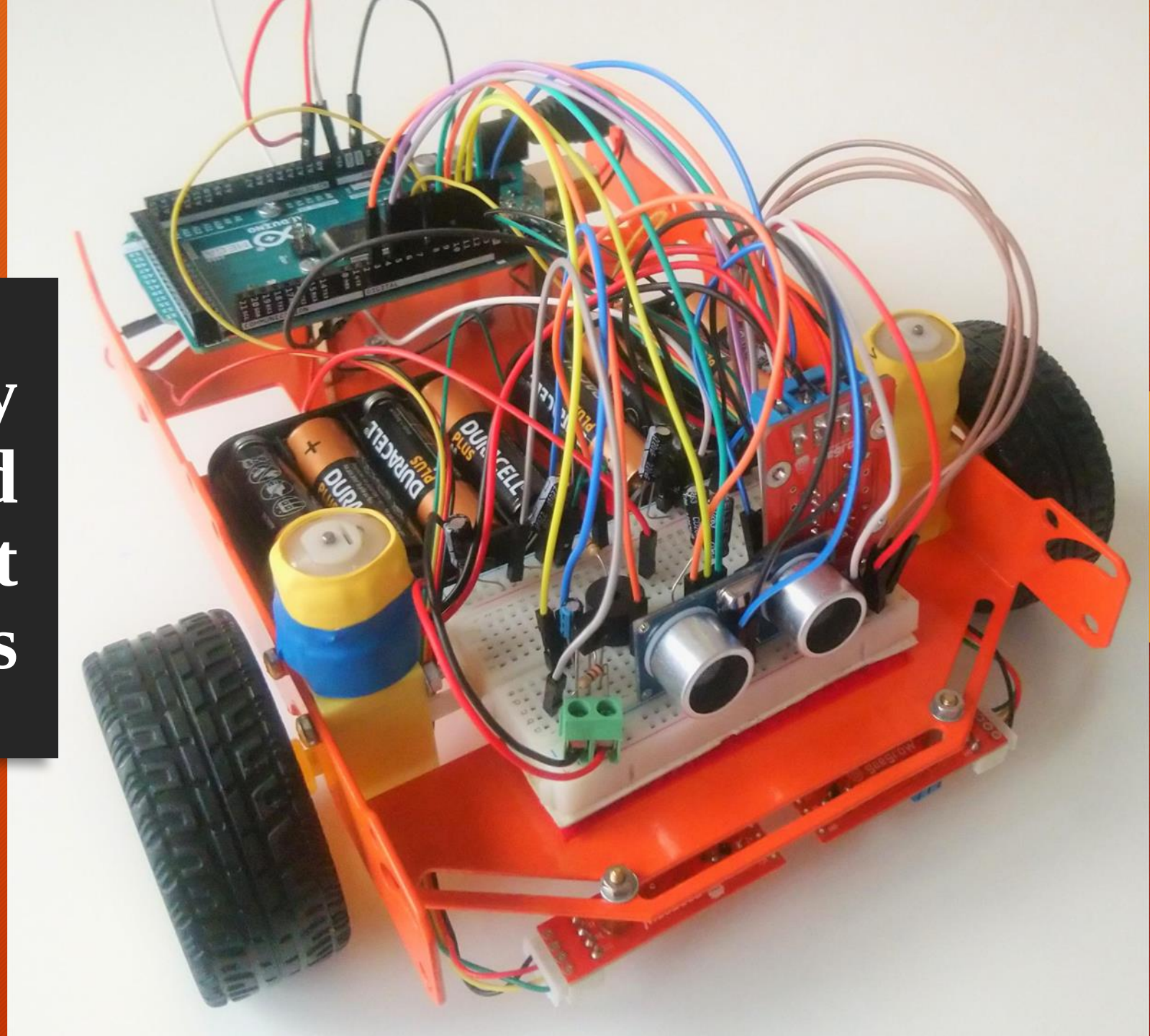
IR remotely controlled 2-wheel robot with 9 behaviours



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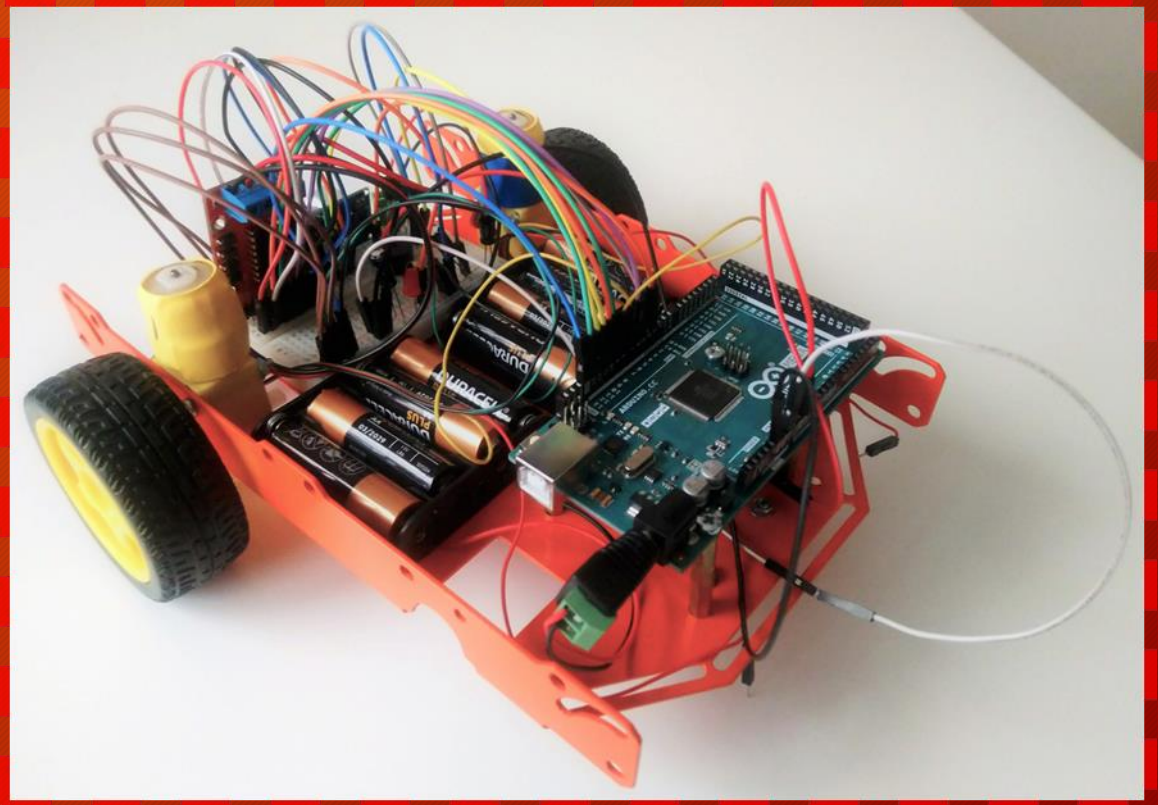
Functions

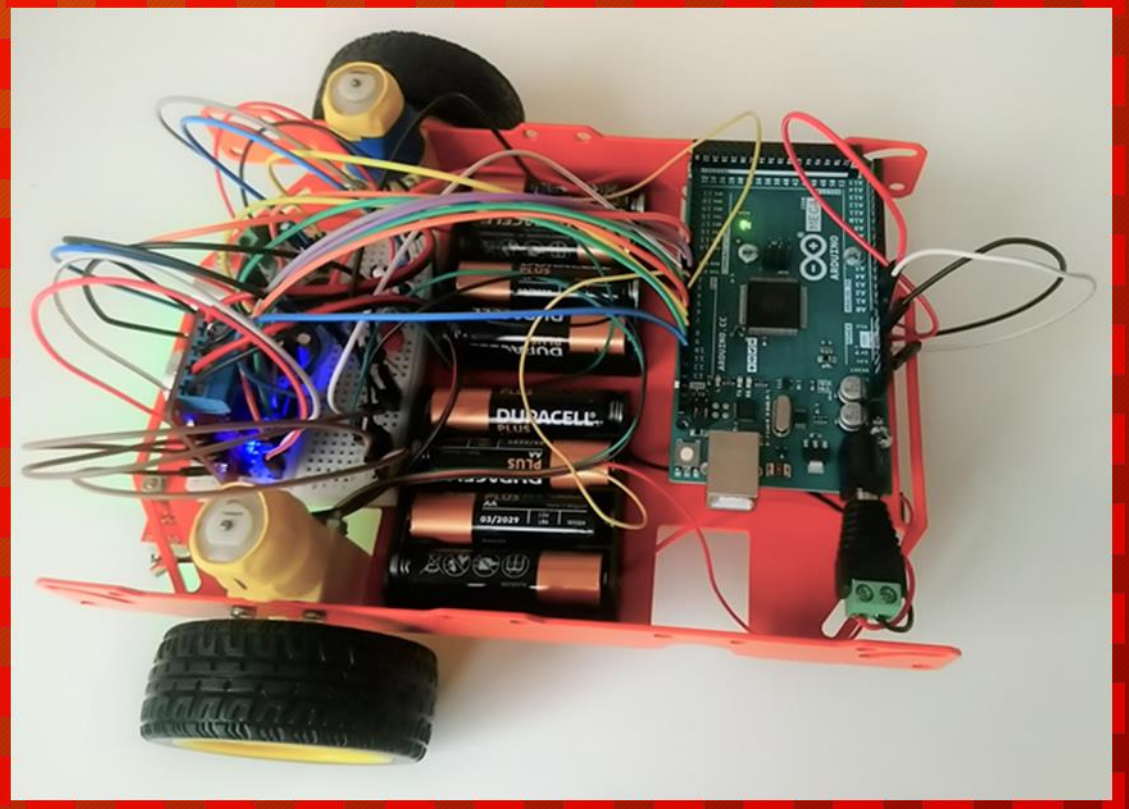
Switch among the functions using remote

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

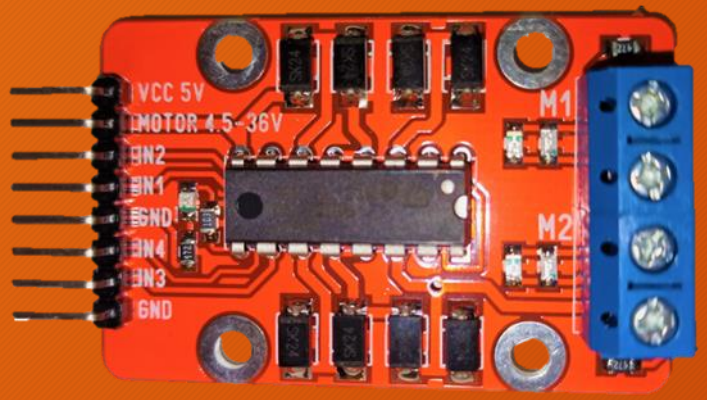


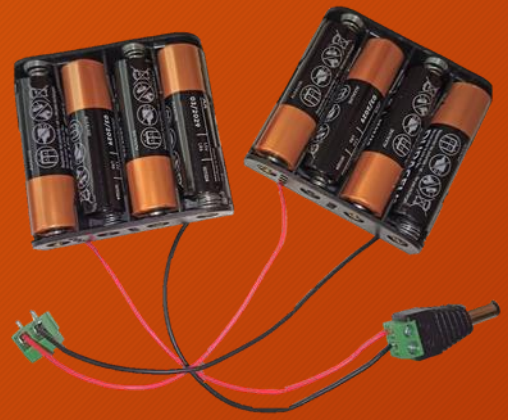
Components: control, power, and actuators

Microcontroller
Arduino Mega

TT Motor × 2

Motor Driver
L293D





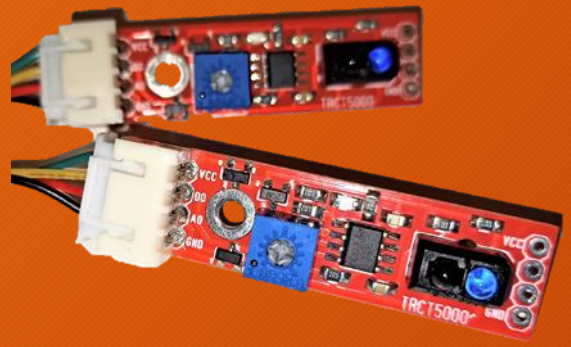
4 AA battery
holder × 2

Components: sensors

Infrared Receiver

Ultrasonic Sensor HC-SR04

Line Tracking IR Sensor TCRT5000 × 2



Infrared Transmitter Remote

Components: additional

120 Ω and 240 Ω Resistors

Passive Buzzer

Red LED

1 µF and 200 µF Capacitors

Thank you!