Arduino Based Line Follower Robot

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1 ALGORITHM

1.1 *Components*

https://github.com/ka-raja-babu/Arduino-Based-Robot/blob/main/Line%20Follower%20Robot/Component%20%20List.pdf

1.2 *Wiring Diagram*

https://github.com/ka-raja-babu/Arduino-Based-Robot/blob/main/Line%20Follower%20Robot/Wiring%20Diagram.pdf

Motor Shield	Left IR Sensor
D7	D
GND	GND
5V	5V

TABLE 1.1: Connection for Left IR Sensor

Motor Shield	Right IR Sensor
D8	D
GND	GND
5V	5V

TABLE 1.2: Connection for Right IR Sensor

1.3 *Arduino Code*

- Connect the Arduino uno board to Laptop/PC using USB cable.
- Open the Code.ino file in Arduino IDE.
- From Tools menu, select Board as ”Arduino Uno” and suitable ”Port” on which the Arduino board is connected.
- Compile the code by clicking on ”Verify” option.
- Upload the code to Arduino Uno using the ”Upload” option.

1.4 *Working*

1) Working of a line follower robot is based on the IR transmitters and receivers which are also called photo diodes .
2) When infrared rays transmitted by IR transmitter, fall on a white surface,rays are reflected back and received by IR receiver which generates some voltage changes.
3) When infrared rays transmitted by IR transmitter, fall on a black surface,rays are absorb by the black surface and no rays are reflected back, thus IR receiver does not receive any light and no voltage changes occur.
4) When IR sensor senses white surface, then arduino gets 1 as input and when sensor senses black surface, arduino gets 0 as input.
5) IR sensor can be calibrated according to need of the user.

1.5 ***Images***

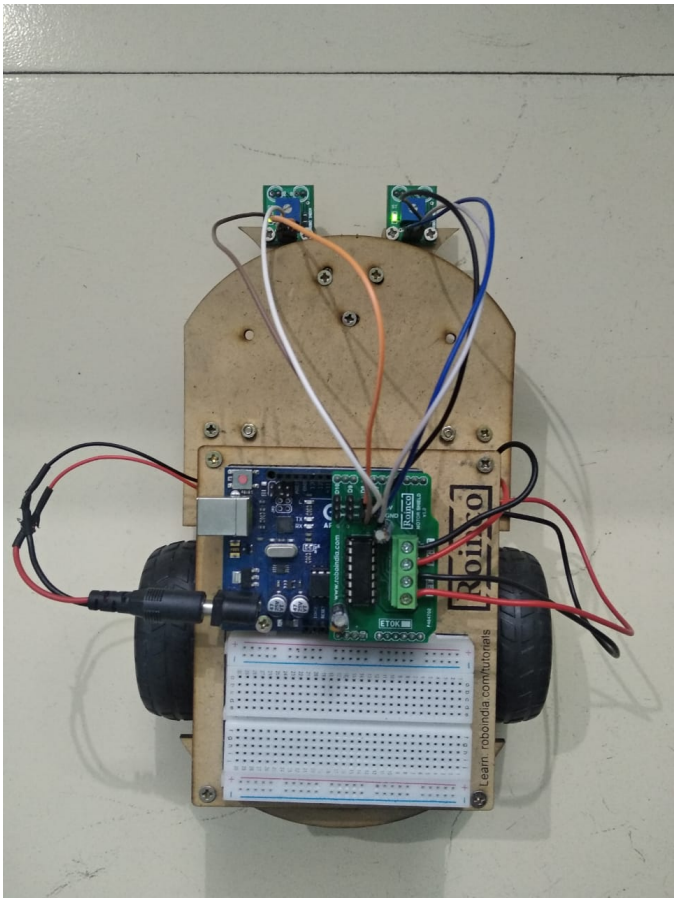

Fig. 1.1: Line Follower Robot

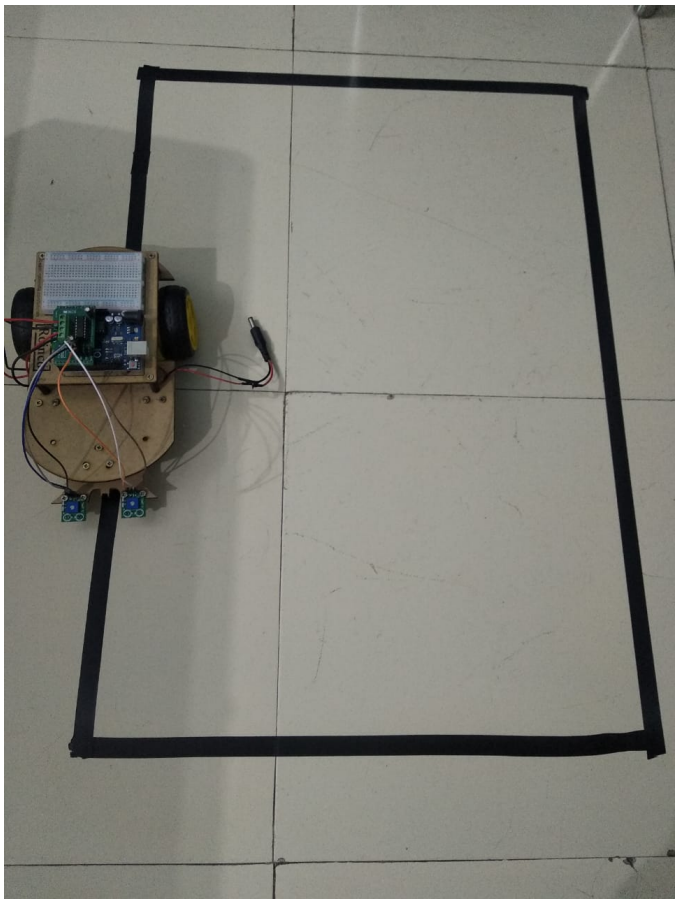

Fig. 1.2: Path of Line Follower Robot