

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>

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 absorbed 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

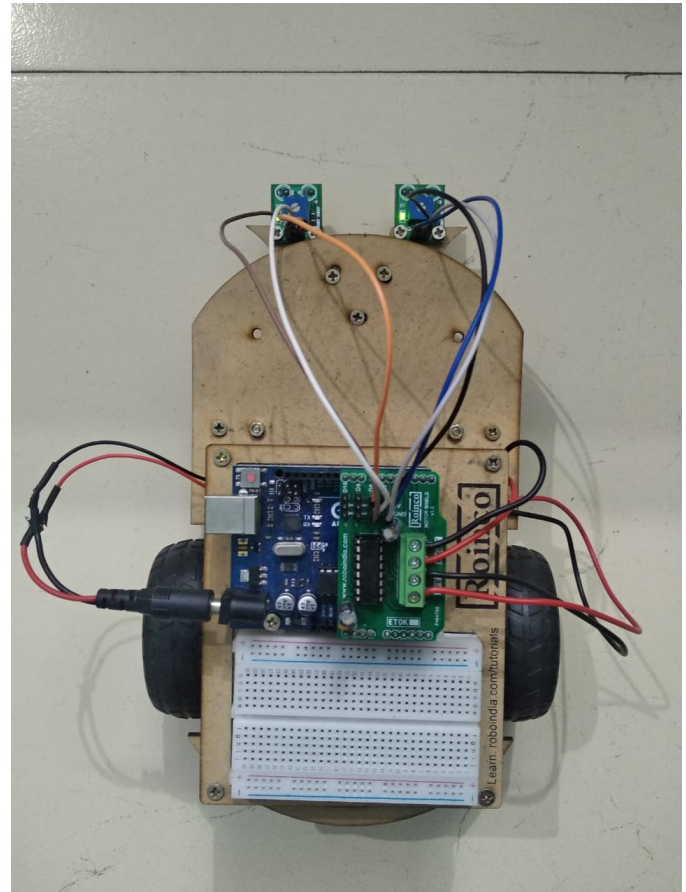


Fig. 1.1: Line Follower Robot

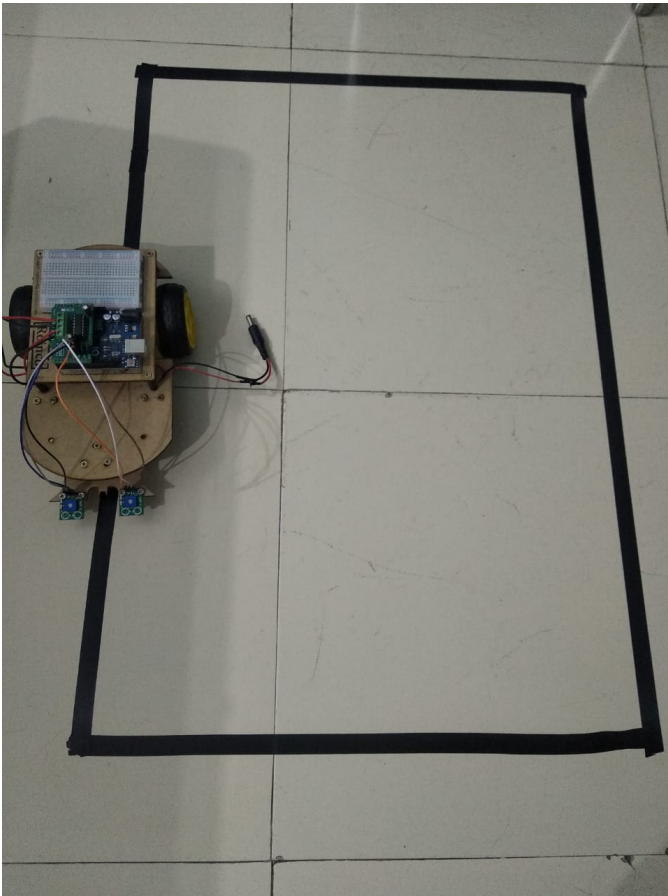


Fig. 1.2: Path of Line Follower Robot