Wiring Diagram for Arduino Controlled Bot

Wiring Diagram Instructions:

1. L298N Motor Driver Connections:

  - Motor 1 (Left Motor):

    - OUT1 -> Left Motor +, OUT2 -> Left Motor -

  - Motor 2 (Right Motor):

    - OUT3 -> Right Motor +, OUT4 -> Right Motor -

  - EN1 to Pin 9 on Arduino (Motor 1 PWM)

  - EN2 to Pin 10 on Arduino (Motor 2 PWM)

  - IN1 to Pin 7 on Arduino (Motor 1 Direction Control)

  - IN2 to Pin 6 on Arduino (Motor 1 Direction Control)

  - IN3 to Pin 5 on Arduino (Motor 2 Direction Control)

  - IN4 to Pin 4 on Arduino (Motor 2 Direction Control)

  - +12V Power Input to + Terminal of 3S LiPo Battery

  - GND on L298N to - Terminal of 3S LiPo Battery

2. Arduino Power:

  - Connect the 5V output from the L298N to the 5V pin on Arduino, or use a dedicated 5V regulator.

3. HC-05 Bluetooth Module:

  - VCC to 5V on Arduino

  - GND to GND on Arduino

  - RXD to TX on Arduino (with level shifter if needed)

  - TXD to RX on Arduino

4. Additional Notes:

  - Ensure a common ground connection among all components.

  - Securely mount the 3S LiPo battery with heat-resistant insulation if possible.