# Line Follower Robot

**Instructions:**

http://www.electronicshub.org/arduino-line-follower-robot/

**Materials Needed :**

- Arduino nano

Mini Nano V3.0 ATmega328P Microcontroller Board w/USB Cable For Arduino

- Robot chassis, wheels, motors, batteries

https://www.amazon.com/YIKESHU-Chassis-Encoder-Arduino-Wheels/dp/B075LD4FPN

- Motor Driver

https://www.amazon.com/Qunqi-L293D-Shield-Arduino-Duemilanove/dp/B014KN2898/ref=sr_1_3?ie=UTF8&qid=1509663908&sr=8-3&keywords=arduino+motor+driver+4+dc&dpID=51UwEXsgGxL&preST=_SY300_QL70_&dpSrc=srch

- ~~BUILD IR SENSORS (2)~~
- ~~Still need batteries (2 9v battery → Dollar store or Amazon?)~~
- ~~Battery Connector (Coming)~~

**Things to keep in mind:**

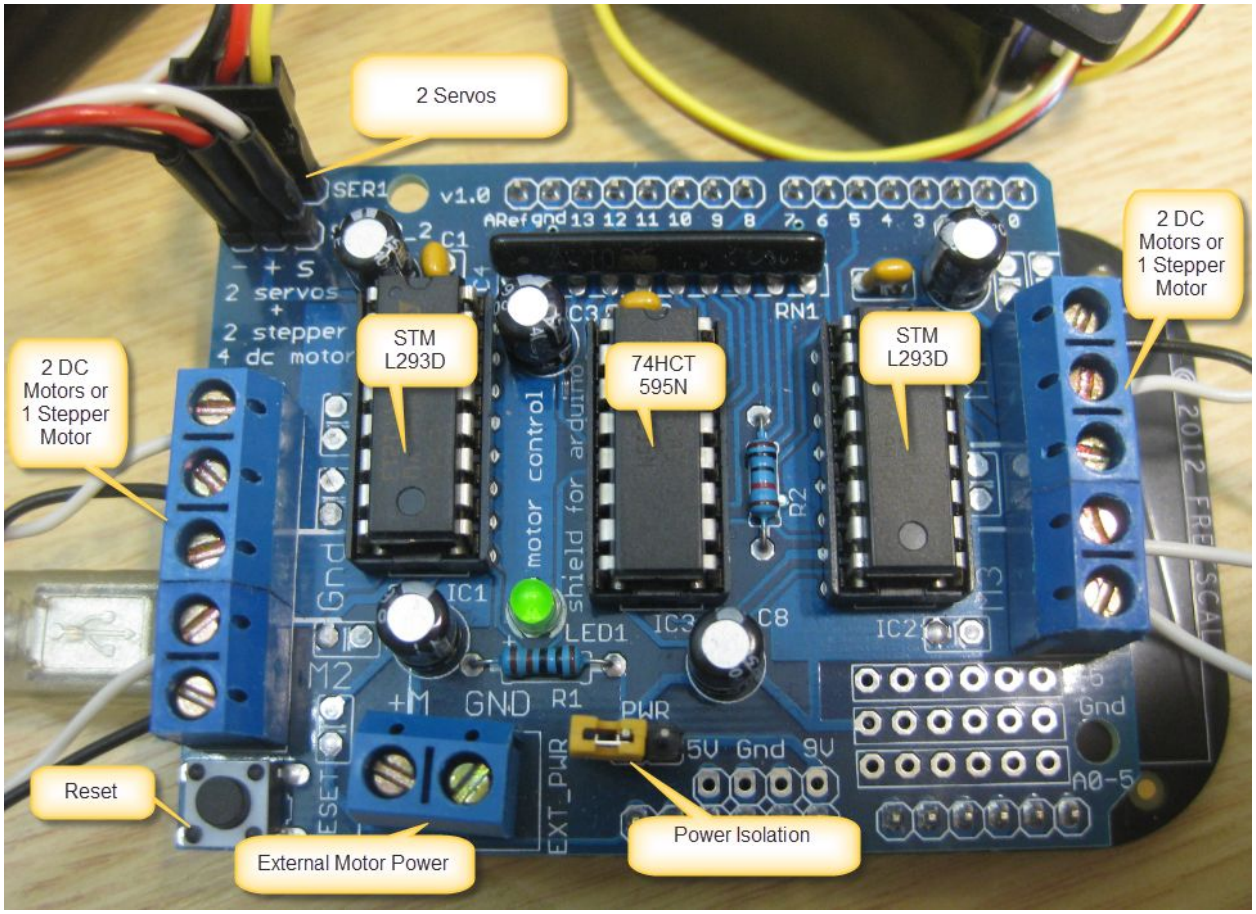
> **You can't run motors off of a 9V battery so don't even waste your time/batteries!** Use a big Lead Acid or NiMH battery pack. Its also very much suggested that you set up two power supplies (split supply) one for the Arduino and one for the motors. **99% of 'weird motor problems'** are due to noise on the power line from sharing power supplies and/or not having a powerful enough supply!

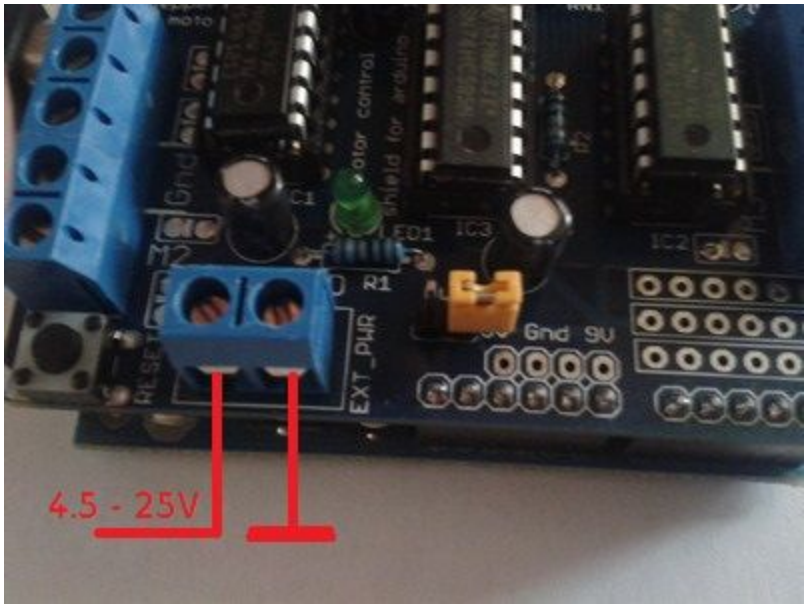
**~~Problem solve(ish):~~**

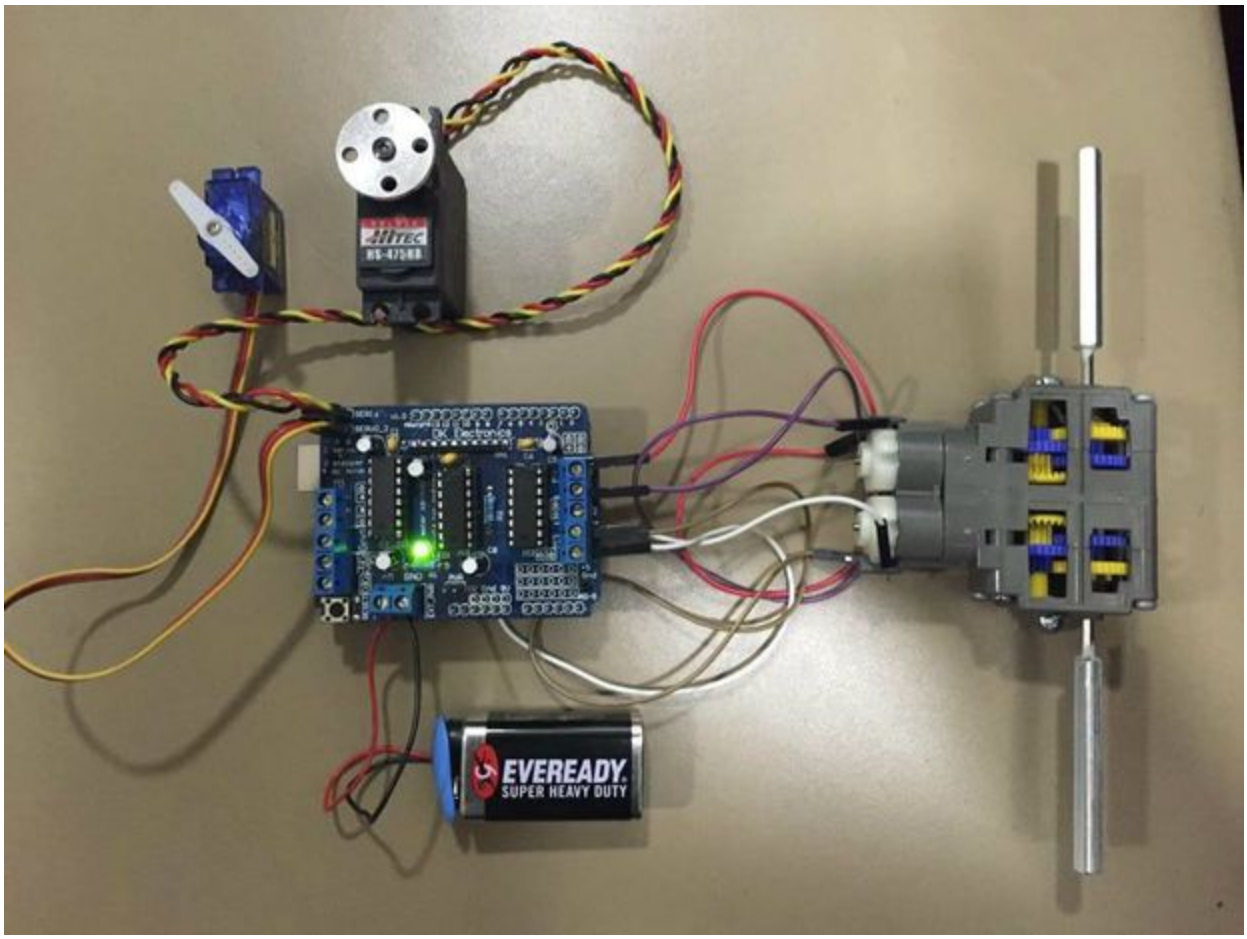
**~~Already bought → So we will use 2 battery clip connectors~~**
~~1 with the black connector connecting to arduino uno~~
~~1 with (cut) positive and negative wires connected to driver shield for ext_pwe~~

**Motor Shield PDF**

https://cdn-learn.adafruit.com/downloads/pdf/adafruit-motor-shield.pdf






**Code so far → (For Connections with arduino uno and driver shield)**

```
#include <AFMotor.h>

AF_DCMotor motor1(1);
AF_DCMotor motor2(2);
AF_DCMotor motor3(3);
AF_DCMotor motor4(4);

void setup() {
  motor1.setSpeed(200); //0 to 255 as 0 is off and 255 is full throttle
  motor2.setSpeed(200);
  motor3.setSpeed(200);
  motor4.setSpeed(200);
 //motor.run(RELEASE); Stops the motor

}

void loop() {
  motor1.run(FORWARD);
  motor2.run(FORWARD);

  //set speed here is fine as well
  //motor1.setSpeed(100);
  //motor2.setSpeed(100);


  //motor1.run(RELEASE);
  //motor1.run(BACKWARD);
  //try different combinations of forward & backward to spin in a circle
  //try the same directions to go the same direction

}
```