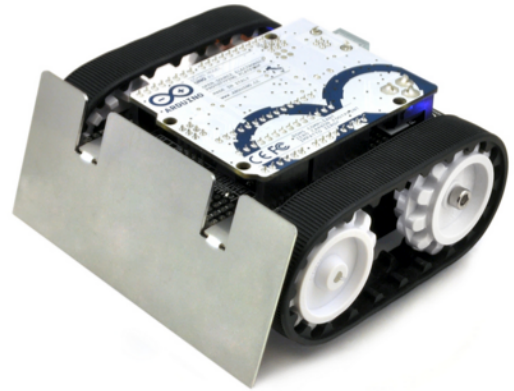


The ZumoBot

Assembly

The ZumoBot comes mostly assembled, but you do need to carefully attach your Arduino board by lining up the pins on the bottom of the ZumoBot with the holes in the Arduino and gently pressing it into place.



Download the ZumoBot Software

Many different example programs are available at the website: <https://github.com/pololu/zumo-shield>

Click on the “Download ZIP” button on the right to download all the example software at once. Save the .zip file to your directory on the Y: Drive. Double click the file to expand it into a directory.

Find the example programs in: zumo-shield-master/ZumoExamples/examples/

LineFollower

A ZumoBot with a reflector sensor array like yours can be programmed to follow lines and run a line-following course. Use black tape to mark out a course on the floor. Load the **LineFollower.ino** program from the examples. Test how well your Bot can follow the tape line you made. Try making more complex paths. Does your ZumoBot ever get stuck or lose the line? Do the values in the program need to be adjusted?

How fast is your ZumoBot? Try making a straight line of tape on the floor and measuring the velocity of your Bot as it follows it.

Sumo Robot

Try out the sumo wrestling ZumoBot!

The code can be found in examples/BorderDetect/BorderDetect.ino

A complete description of how to set up, test, and calibrate the software, if needed, is online at <https://www.pololu.com/docs/0j57/7.b>

By default the code is configured to look for a white border around a black inner area. To switch this, you’ll have to modify the program:

Change the line: if (sensor_values[0] < QTR_THRESHOLD)

To: if (sensor_values[0] > QTR_THRESHOLD)

Change the line: if (sensor_values[5] < QTR_THRESHOLD)

To: if (sensor_values[5] > QTR_THRESHOLD)

Once you have your Bot properly moving within a ring of tape, challenge another Zumo to a wrestling match!

For a Collision Detecting sumo robot, see <https://www.pololu.com/docs/0J57/7.c> , but you will need to download additional software from <https://github.com/pololu/lsm303-arduino> in the same way as before for the main software.