



MS101 | Makerspace Lab

Project Report

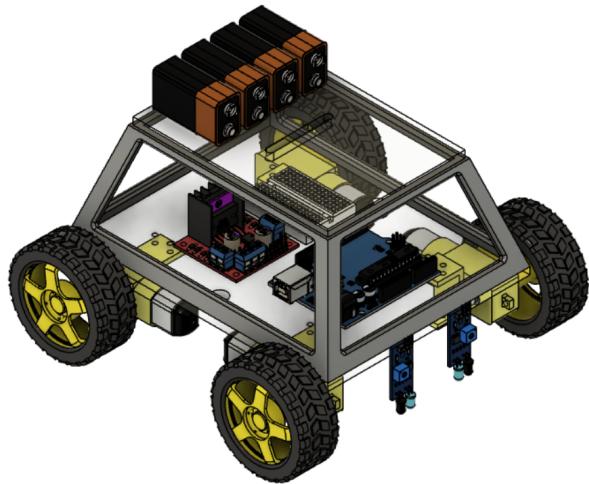
Week 3

Team Name: P3-T13

Team Members:

1. 22B2253 (Krishna Patil)
2. 22B2254 (Vedant Agarwal)
3. 22B2255 (Aryan Gupta)
4. 22B2256 (Krishna Khandelwal)
5. 22B2257 (Niranjan S)
6. 22B4511 (Ayush Mishra)

Fabricated Model



The above is a close estimate of our project, which we made on Fusion 360. Note that the arm has not been shown here. (Few components have been taken from <https://grabcad.com>)

Also, we have not taken photos of our car and its parts, but we have added many videos at the end of the report.

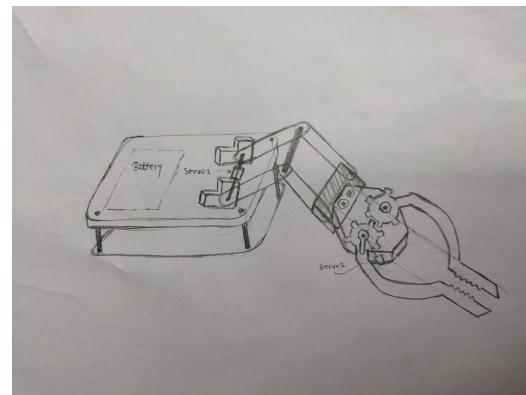
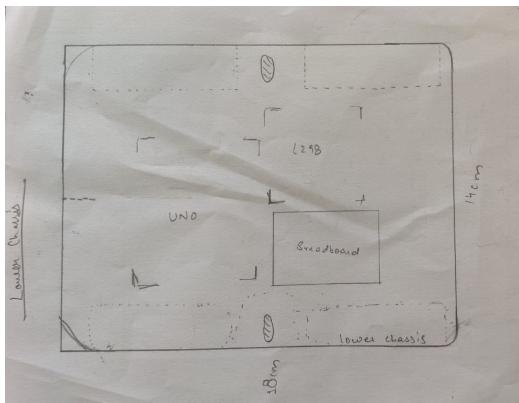
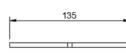
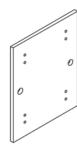
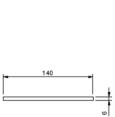
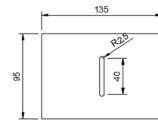
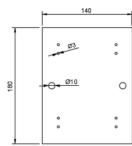
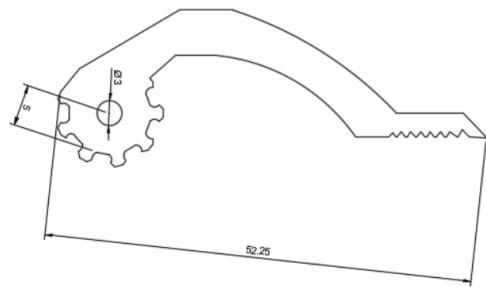


Diagram not drawn to scale

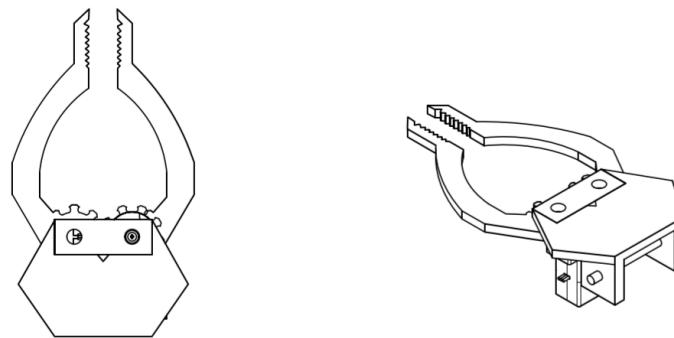


Lower Chassis

Upper Chassis

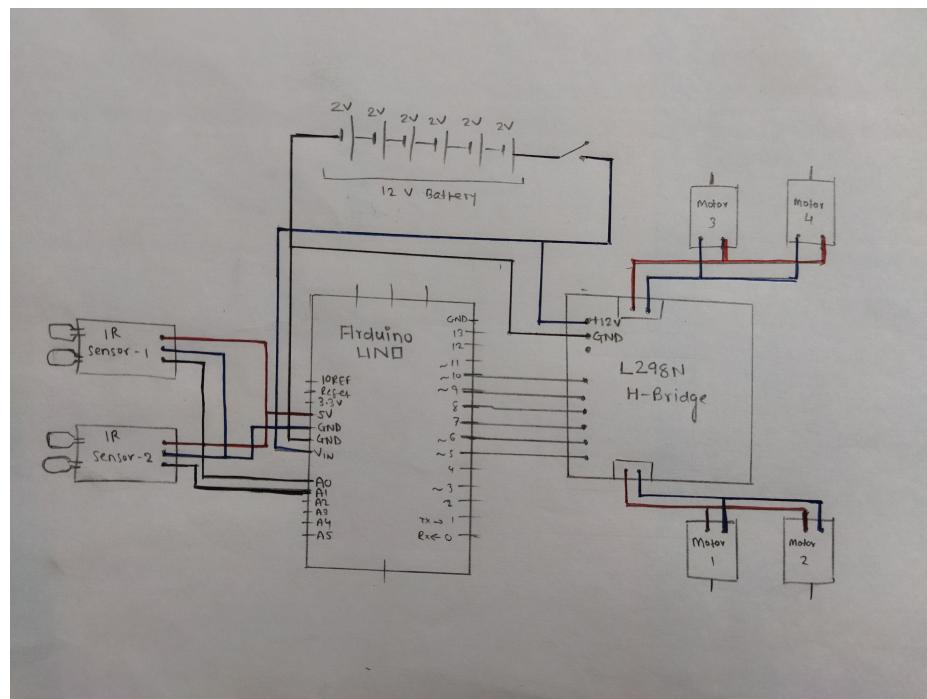
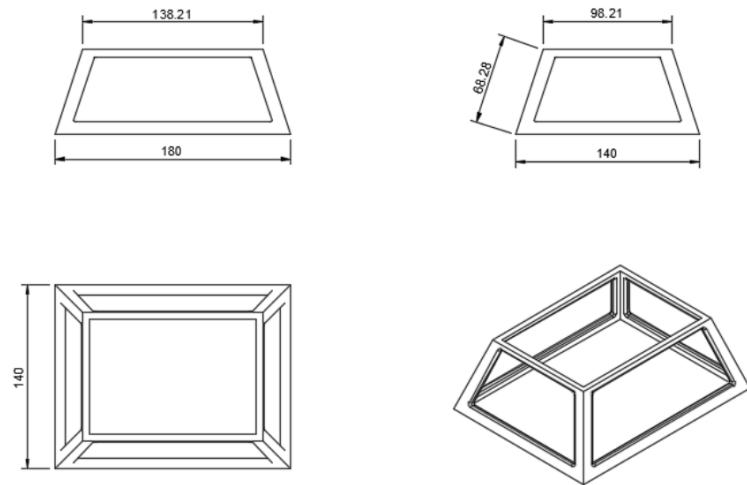


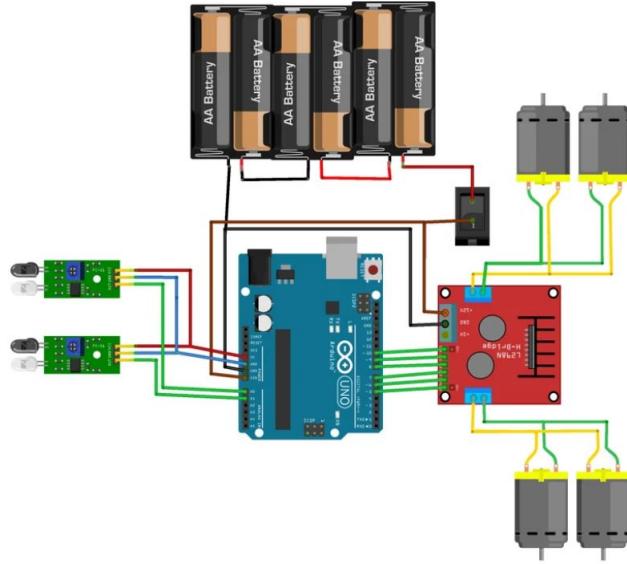
Claw Teeth



Complete Claw with Servo Motor

Upper Chassis Support





Source : <https://www.instructables.com/Line-Follower-Robot-Using-Arduino-Uno-and-L298N/>

Videos

- Line Follower: <https://youtube.com/shorts/ux0m8CKe7bw?feature=share>
- Bluetooth Module: <https://youtu.be/aon3loInvY4>
- Arm: https://youtube.com/shorts/kX_7PaNAtfg?feature=share
- Claw: <https://youtube.com/shorts/gjeg7HPeFuU?feature=share>
- Laser Cutting: <https://youtu.be/GiuNDyM5ZoE>
- 3D Printing: <https://youtu.be/zUdRqP5OcXs>

Codes

- <https://github.com/vedantA04/ms101-group-project>

Issues, Corrections, Debugging

We faced many issues, which we solved along the way. One of the issues was servo control. We learned from [here](#) that pins 9 and 10 should not be used as PWM output pins when using the servo library. Also, we optimized the [upper chassis support](#) because the weight exceeded the limit for 3D printing (we reduced it from approximately 170g to 40g). Now, the claw and arm assembly is the only pending task remaining.

References

- <https://www.instructables.com/Line-Follower-Robot-Using-Arduino-Uno-and-L298N/>
- <https://grabcad.com>
- <https://youtu.be/F2m7U23CCfs>
- <https://github.com/Rupakpoddar/Bluetooth-operated-car>
- <https://forum.arduino.cc/t/problem-with-servo-attach/195767/4>