

High-Speed Line-Follower Rules

For fast line-followers, inspired by the Nat Car event at Robogames 2011

This is the Asiatic/European style line-follower race track we are not used to see in North America, i.e. a white line on a black board.

Object

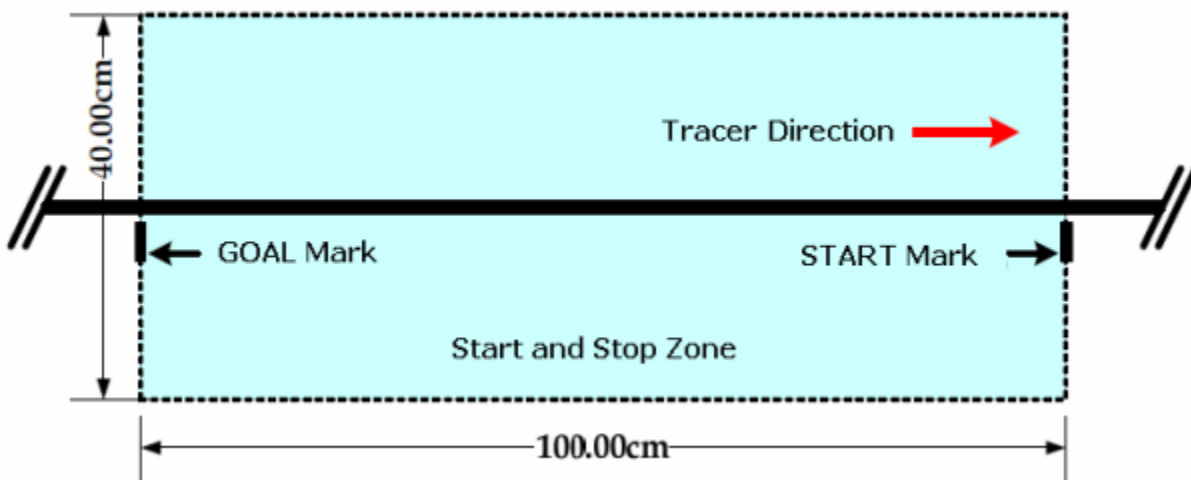
The object is for a small autonomous robot to follow a line, racing the track as fast as possible. Your robot can memorize or record the track. The Course has start- and end-of-track markers, as well as markers before every curve, to tell your robot when to change speed or behavior.

Robot Specifications

The robot should fit inside a 26 cm cube in order for it to navigate past or under specific obstacles that may or may not be present on the course. Also, it must be light enough to work on a table top. The robot must be safe and comply with the “General Rules for All Robots.”

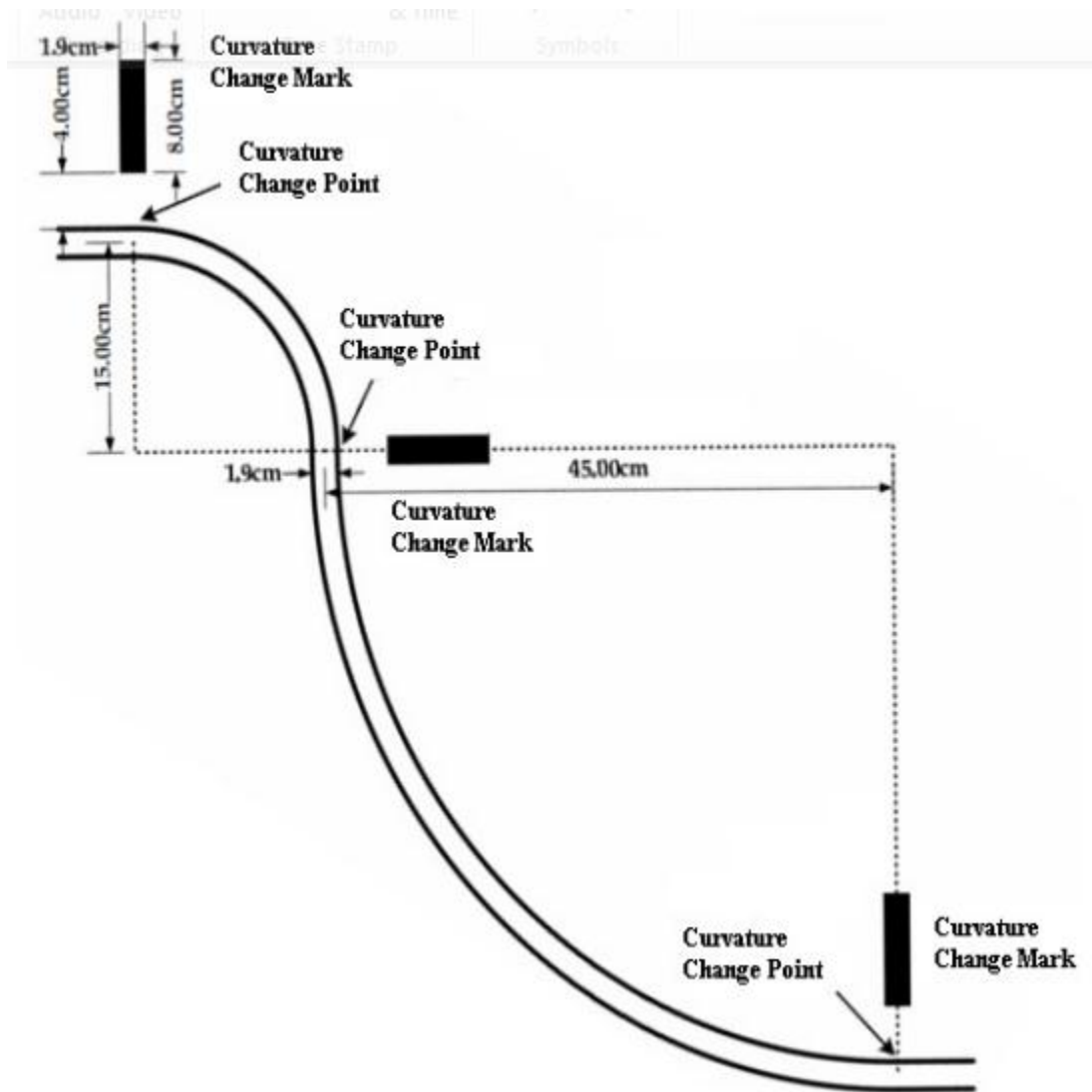
Track Specifications

The track is composed of a 19mm-wide white line traced on a black background. It has markers on the right side that indicate the start and end of the track.

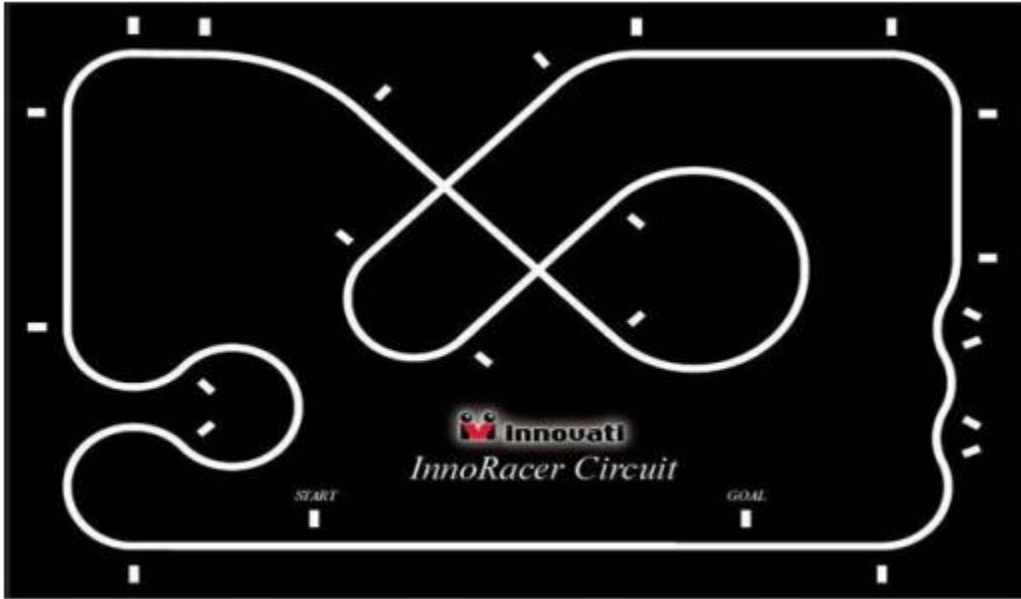


On the left hand side, markers (small pieces of white line, perpendicular to the track) can be read and memorized by your Bot in order to speed up or slow down its motors.

WCRG 2012 HIGH-SPEED LINE-FOLLOWER REV0



The minimum curve radius is 15cm. Each curve also has a minimum length of 15 cm before the change of curve. The lines might be crossing, always perpendicular and in straight line only. Below is a picture of a track that could be used in High Speed Line Following (from www.custobots.com). The track used in the competition could be longer in length, but might have similar curves and line crossings.



The Line Follower Contest

Your robot should follow the line to the end, as fast as it can. The robot will be placed at a pre-assigned starting point, before the start line. Time starts counting as soon as any part of your robot crosses the start mark and will be stopped when your robot crosses the finish mark. You are allowed to do a free run to memorize the track; you can use the curve change marks as reference points, but you don't have to.

Racing: You will have 3 runs trying to complete the course from start to finish, as fast as possible. Your robot cannot be reprogrammed between runs. Any other minor adjustments, like tire changes or sensor calibrations, are allowed.