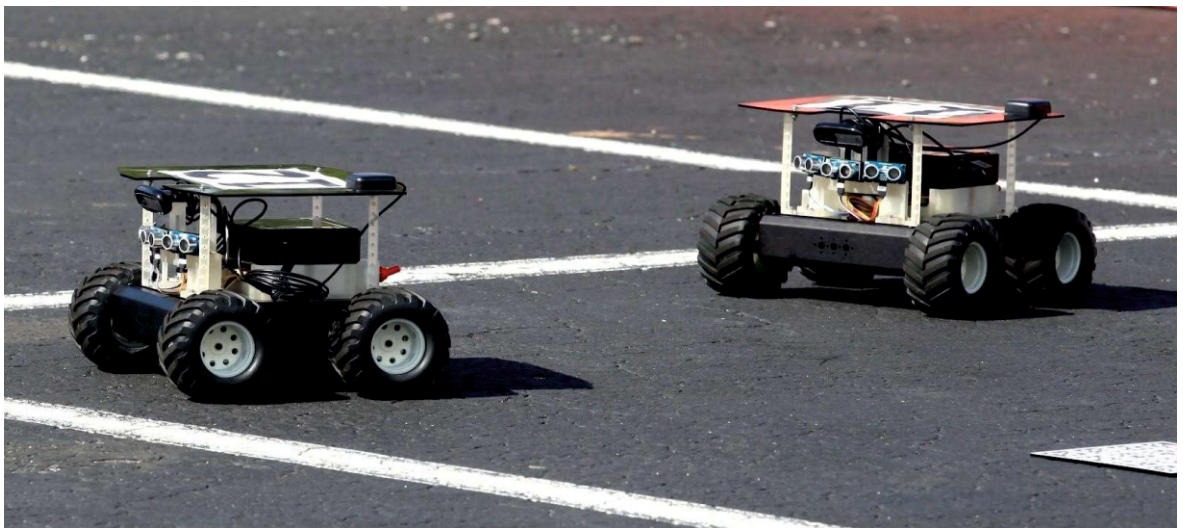


ROBOTICS AND ARTIFICIAL INTELLIGENCE FOUNDATION (RAAIF)

ROBO CAR MANIA – PROBLEM STATEMENT

Introduction:

“Safety isn't expensive, it's priceless.” - Jerry Smith”



Introduction

The Objective of Robo car mania is to educate students on the Road Safety and make the roads a safe place to drive. This initiative is to make school students understand the road rules in India and high risk of irresponsible road behaviour.

Problem statement

Gear up! Come with your robot car to test drive on road track by following the basic road safety rules and get awarded with points. .

Event format

- The event consists of 2 rounds.
- Each team can have a wired or wireless Remote-control robot capable of navigating on roads obeying the road signs.

- The robot should follow the rules & not hit the road signs kept in the arena.
- It will be one on one round in both 1 & 2 rounds.
- The teams which come out with top cumulative score at the end of the round1 will be selected for the final round.
- The teams which are selected for the final round will be tested in the knowledge on their robot configurations & traffic rules.

ROUND 1:

- The arena for the round1 will be filled with road sign & traffic signals
- The robot must travel in the arena without hitting any road sign and reach the finishing line.
- The bot can be wired or wireless in control. In case of wired robot, the wire length should be sufficient
- (For “Robo Car mania” wireless robot will be better)
- Minus points will be given for adjusting the robot / repairing the robot on the arena.
- Teams with lesser penalty and minimal time will be qualified to the finals.
- No trial rounds will be given inside the arena.

ROUND 2:

- Round2 will be the final round.
- This will be one-on-one round.
- The selected 2 teams are required to complete the task.
- There will be residential zone where the buzzer should turn on.
- The robots will not be allowed to fight against each other.
- The robot should not hit on any road sign & cross lines inside the arena.
- The robot should obey the traffic light present in the road intersections by waiting before the stop line present there.

- The robot can be wired or wireless in control. In case of wired robot the wire length should be sufficient (5m or more) (For “Robo Car mania” wireless robot will be better)
- No trial round will be given inside the arena.
- The bot which finishes the road track with minimal time and reaches the finishing point first by following the rules will be **“The winner”**.

Schematic Arena



Rules and specification

- Robot should not hit the road borders, public properties, etc.
- The team should have 4 members. Students should have a valid school ID card.
- The battery should be on board the bot.
- The dimensions of the Robot car mania 20 x 20 cm. The weight of the robot and battery combined should not exceed 6kg.
- The competition will be one on one round where 2 team will compete in same time.
- There will be 3 traffic signals where the robots should reach the destination after passing all the signals.
- Both wired and wireless robots are allowed.
- Robot should travel only on the road, if it deviates from its path, penalty would be given for that team.

- In case of wireless robots, each robot must be able to support dual frequency so that there is no interference with the opponent's robots.
- Readymade remote-controlled car (wired or wireless) will not be entertained.
- The voltage at any point on the bot should not exceed 12v DC.
- Unfair game may lead to disqualification of the team.
- Participants with wired robots are strictly advised to get wires of length 5m or more.
- Register your team's name to the organizer committee.
- A team should have a leader or a spokesperson to interact with media, RAAIF and other audience.
- Judges and Organizers decisions are final.
- Any kind of permanent damage to the arena / stage will not be entertained, and if done, the robot will be immediately disqualified. The participant has to compensate for the damage caused.