RoboTrack: Ultimate Obstacle Odyssey

Table of Contents

1. Introduction

1.1 About the Competition

The RoboTrack: Ultimate Obstacle Odyssey is a robotics competition that challenges teams to design and program autonomous robots capable of navigating through a complex track filled with a variety of obstacles and challenges.

1.2 Objective

The primary objective of the competition is to promote robotics education and problem-solving skills by simulating real-world scenarios where robots must navigate through challenging environments and interact with obstacles.

1.3 Eligibility

The competition is open to students and robotics enthusiasts of all ages. Each team can have a minimum of 2 members and a maximum of 4 members.

1.4 Competition Dates and Location

The competition will take place on [Date] at [Venue]. Detailed schedules and event information will be provided to registered teams.

1.5 Organizers and Sponsors

The competition is organized by [Organizing Entity], in collaboration with [Sponsors]. The organizers are committed to providing a fair and exciting competition environment.

1.6 Contact Information

For inquiries and additional information, please contact [Contact Name] at [Contact Email] or [Contact Phone].

2. Competition Overview

2.1 Track and Arena Design

The competition arena will feature a complex track filled with obstacles, ramps, hurdles, tunnels, and other challenges. The track will be designed to test the capabilities of the participating robots.

2.2 Robot Specifications

- Robots must be autonomous and pre-programmed before the competition.

- Robots should fit within a [Dimensions] size limit and weigh no more than [Weight Limit].

- Sensors, cameras, and other technologies can be used to detect obstacles and navigate challenges.

- Robots should be equipped with mechanisms to interact with and overcome obstacles.

2.3 Team Composition

Each team can have a minimum of 2 members and a maximum of 4 members. Teams are responsible for designing, building, and programming their robots.

3. Rules and Guidelines

3.1 Robot Design and Build Rules

- Teams are responsible for designing and building their own robots.

- Robots should not exceed the specified size and weight limits.

- Robots must be safe to operate and should not pose a danger to participants, spectators, or judges.

3.2 Autonomy and Control

- Robots must operate autonomously during the competition rounds.

- Pre-programming should be done before the start of each match.

3.3 Sensors and Technologies

- Teams can use a variety of sensors, cameras, and technologies to detect obstacles and navigate the track.

3.4 Obstacle Interaction Rules

- Robots must interact with and overcome obstacles without causing damage to the robot or the arena.

- Robots should not disrupt the position of obstacles or interfere with other robots.

3.5 Scoring and Objectives

- Points are awarded for successfully navigating obstacles and completing challenges.

- Bonus points may be awarded for tackling more difficult obstacles or completing tasks in less time.

- Scoring is based on points earned, completion time, and efficiency.

3.6 Safety Regulations

- Safety of participants, spectators, and judges is a top priority.

- Robots should not pose any danger to people or other robots.

3.7 Fair Play and Conduct

- Teams are expected to follow the competition rules and exhibit good sportsmanship.

- Any attempts to gain an unfair advantage may result in disqualification.

3.8 Referees and Judge Decisions

- Referees oversee the matches and enforce the rules.

- Judges evaluate robots based on their performance and adherence to rules.

3.9 Penalties and Disqualifications

- Penalties may be applied for rule violations or unsafe behavior.

- Serious violations may lead to disqualification from the competition.

4. Competition Rounds

4.1 Match Structure

- Each team gets multiple attempts to navigate the track and overcome challenges.

- The team's robot starts from a designated starting point.

4.2 Starting Point and Robot Activation

- Robots are activated from the starting point using pre-programmed instructions.

4.3 Navigating the Track

- Robots must autonomously navigate through the track