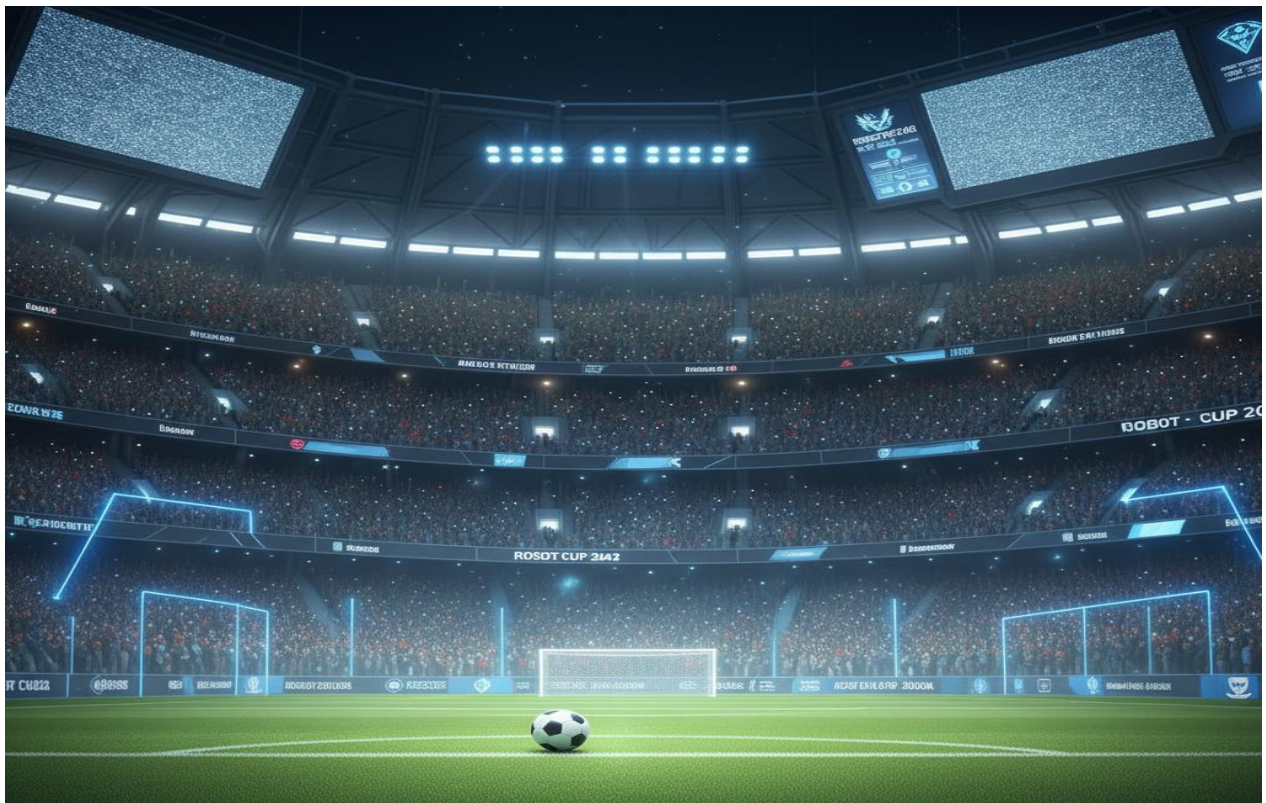


ROBOTICS PREMIER LEAGUE

Introduction:

“Teamwork turns challenges into victories, whether on the field or in life’s toughest battles...”



Are you a football enthusiast? Are you fond of robots? What if robots play football?

Have you ever wondered about Ronaldo! How about depicting him by using robots??

Curious!!

Here is your chance of creating your football robots and compete with the opponents and win.

Problem statement

- Design a team of robots to battle opponents in an action-packed robot football arena. Each team will use two robots, with one assigned to guard the goal and one acting as a player on the field. The team must use smart control and teamwork to block the opponent, move the ball effectively, and score the highest number of goals.

Event format

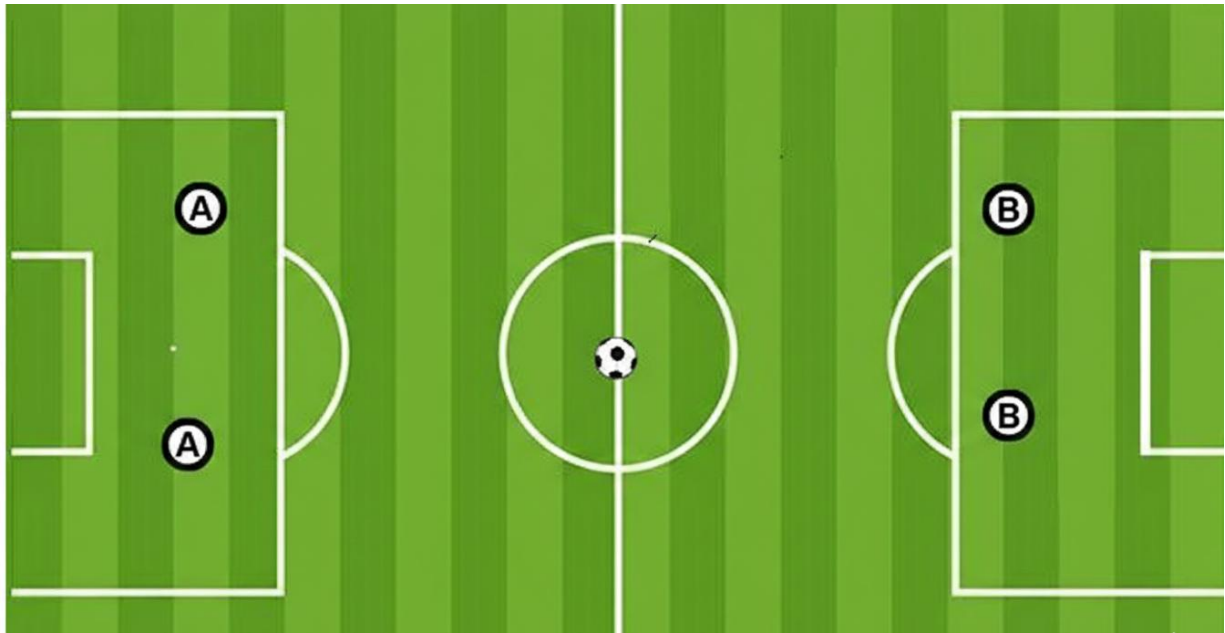
The event consists of 2 rounds.

ROUND 1: QUALIFIER (2 VS 2)

- Round 1 serves as Qualifier stage.
- Each team must bring **two robots**: one **Defender Bot** and one **Striker Bot**.
- During a penalty, the defending team temporarily removes the Striker Bot, leaving only the Defender Bot to protect the goal. The attacking team starts with the ball inside their penalty box and has **15 seconds** to dribble and score from outside the opponent's penalty box.
- Roles are then reversed for the opposing team.
- Each team is allowed one trial to test ball control and shooting before the match begins. Trials do not apply to the Defender Bot.
- **Only Built From Scratch (BFS) robots are permitted.**
- **Performance is measured based on the number of goals scored.**
- **Robots should only be wireless.** Wireless robots must support **dual-frequency control**. Batteries can be onboard if convenient alone.
- The voltage at any point on the bot should not exceed 12v. The supply can be A.C/D.C based on your requirement.
- **Teams must bring an updated LOGBOOK with their robots. Incomplete or inaccurate logbooks may result in disqualification.**
- Judges' decision will be the **final**.

Venue: Regional / Zonal center near you. Students will be informed for their zonal centers.

Schematic Arena:



ROUND 2: MAIN MATCH (2 VS 2)

1. Match Overview

- The game is played between **two teams competing head-to-head**, with **two robots representing each team during gameplay**.
- Each team must deploy **one Goalkeeper Bot** and **one Player Bot**.

2. Match Duration & Timing

- Total match time: **5 minutes**.
- The match is divided into **two halves of 2.5 minutes** each.
- **30 seconds** are allotted for the interval between halves.
- The match clock runs continuously and is controlled by the referee.

3. Team Reporting & Forfeit

- Teams must report to the arena **5 minutes before the scheduled match time**.
- Reporting only at inspection will not be considered valid.
- Late reporting may result in penalties at the referee's discretion.
- Failure to report within 5 minutes of match start will result in forfeiture (**3–0**).

4. Toss, Sides & Restart

- A **coin toss** will be conducted by the referee before the match.
- The toss winner may choose to initiate play or select the defending side.
- Teams will switch sides after the first half.

5. Restart Procedure

- Each half begins with a restart from the center of the arena.
- All robots must be stationary and positioned on their respective sides.
- Robots may begin movement only after the referee's signal.
- Robots may not be repositioned once placed.

6. Ball Control & Scoring

- A robot must not hold the ball in a stationary position for more than **3 seconds**.
- A goal is valid only when the ball **completely crosses the goal line**.

7. Goalkeeper & Defensive Zone Rules

- The first robot to fully enter its defensive zone is designated as the **Goalkeeper Bot** for the match.
- Only the Goalkeeper Bot may interact with the ball inside the defensive zone.
- Attacking robot must not interfere with or obstruct the Goalkeeper Bot.
- Goals scored due to interference with the Goalkeeper Bot will not be considered.

8. Robot Design & Defensive Features

- Robots may include **non-damaging mechanisms** to block, intercept, or redirect the ball.
- Permissible features include deflecting panels, blocking surfaces, and soft bumpers.
- Any mechanism that damages, traps, lifts, or disables an opponent robot is prohibited.

9. Lack of Progress & Ball Repositioning

- If gameplay stalls due to the ball being trapped or unreachable, the referee may reposition the ball to a neutral spot.
- The referee's decision regarding ball placement is final.
- There are **no throw-ins, corner restarts, or goal restarts**.

10. Damaged Robots & Repairs

- Computers and repair equipment are not permitted inside the playing area during gameplay.
- Repairs must be carried out only at the **approved repair table** located within the competitors' working area.

- Only the referee has the authority to declare a robot as damaged.
- Robots may be removed from or returned to the field **only with the referee's permission.**
- Damaged robots must remain off the field for a minimum of **30 seconds** before re-entry.
- Gameplay will continue while repairs are being carried out.
- If **one robot from the same team** are disabled and do not return within **2 minutes**, the opposing team will be declared the winner (**5–0**).

11. Fouls & Penalties

- A foul committed outside the penalty area will result in a **free restart** for the opposing team.
- A foul committed inside the penalty area by the defending team will result in a **penalty attempt.**
- During a penalty attempt, all defending robots must be removed from the arena.
- The attacking team will have **15 seconds** to attempt a goal, starting from within their defensive zone and scoring from outside the opponent's penalty area.

12. Discipline & Match Control

- A foul is declared in the following situations:
 - A robot deliberately runs over or collides with an opponent.
 - A defending robot other than the Goalkeeper Bot touches the ball inside the penalty area.
 - The Goalkeeper Bot touches the ball outside the penalty area.
 - An attacking robot pushes or obstructs the Goalkeeper Bot.
 - A robot causes damage to another robot.
- Based on the severity of the foul, the referee may issue **yellow or red cards.**
- Any argument with referees or opponents will result in an immediate red card and possible disqualification.

13. Draw Resolution

- If the match ends in a draw, the winner will be decided through a **penalty shoot-out.**

14. Robot Categories & Documentation

- Only **Built-From-Scratch (BFS)** robots are permitted.
- **An updated logbook must be presented at the competition.**

15. Match Interruptions & Restarts

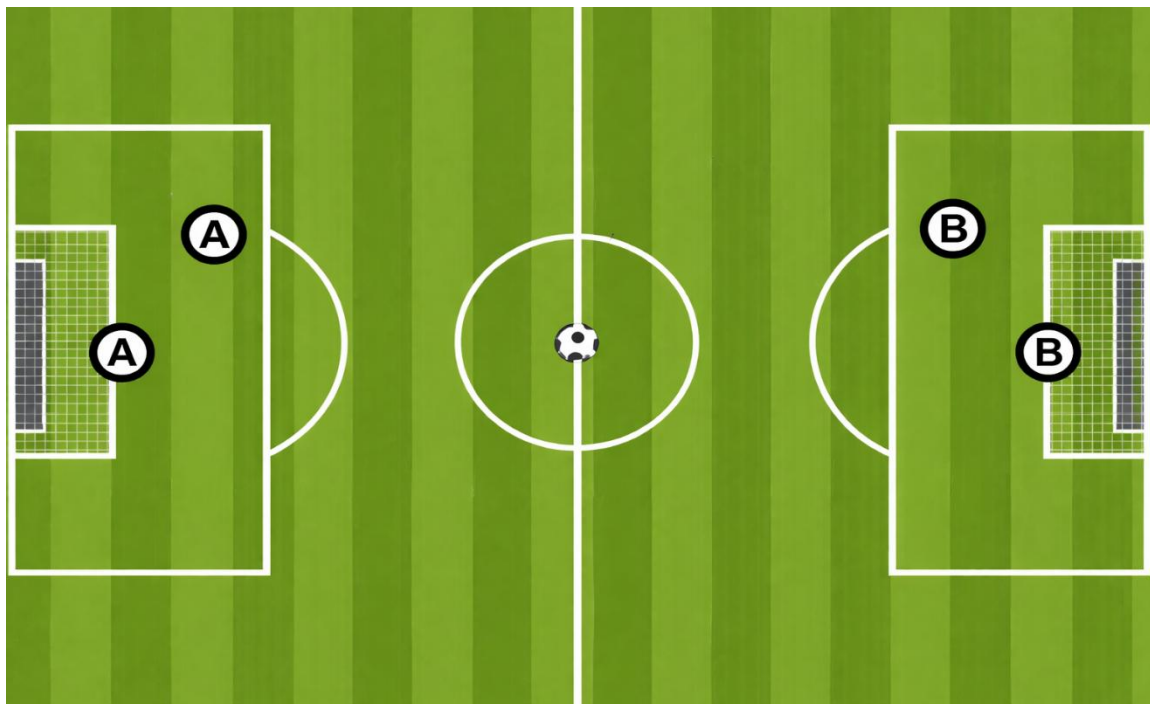
- The referee may stop the match to consult tournament officials
- or if the ball is lost and a replacement is not immediately available.
- When play is stopped, all robots must remain stationary and untouched on the field.
- The referee will decide whether play resumes from the stopped position or via a restart.
- There are **no throw-ins, corner restarts, or goal restarts**, as the arena boundaries are enclosed.
- Stoppage time, if applicable, will be added at the end of both halves.

16. Draw Resolution

- If the match ends in a scoreless draw, the winner will be decided through a **penalty shoot-out**.

17. Final Authority

- The **judges'** decisions are **final**.



Rules and specification:

- Each team may have a **maximum of 2 members**, both belonging to the **same school**.
- All participants must carry a **valid school ID card** and present it during **every round** of the event.
- A **tennis-ball-sized ball** will be used for **both Round 1 and Round 2**.
- For Round 1, each team must bring **two robots** (one Goalkeeper Bot and one Striker Bot).
- For Round 2, each team must bring **two robots** (one Goalkeeper Bot and one Field Player Bot).
- Each robot must fit within **25 cm × 25 cm × 25 cm** at all times, including any ball-interaction mechanism.
- The **combined weight of all robots used by a team in a match must not exceed 6 kg**.
- Only **wireless controlled robots** are permitted.
- Wireless robots must support **dual-frequency operation (2.4 GHz and 5.8 GHz)** to prevent signal interference.
- Direct use of **commercial remote-controlled cars** is strictly prohibited.
- Robots must **not carry, clamp, or hold the ball while moving**.
- Dribbler mechanisms are allowed.
- The ball may be dribbled, blocked, or struck using **any part of the robot**, provided no damage is caused.
- Batteries may be mounted onboard the robots.
- The voltage at any point on the robot must **not exceed 12V**.
- Both **AC and DC power supplies** are permitted within the voltage limit for all rounds.
- Any form of **unfair gameplay** may lead to immediate disqualification.
- Each team must have a **unique Team Name** and an official **Team Logo**.
- Each team must nominate **one leader or spokesperson** to interact with officials, media, and the audience.
- Any action causing **permanent damage to the arena or stage** will result in immediate disqualification.
- Teams responsible for damage must compensate for the loss.
- Participants must bring **basic cleaning equipment** to manage any accidental spills on the arena.
- An **updated logbook** must be maintained and presented during the competition.

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