

The Annual Tech-Fest of GEC, Vaishali

# VISION'25

13th - 14th Sept 2025



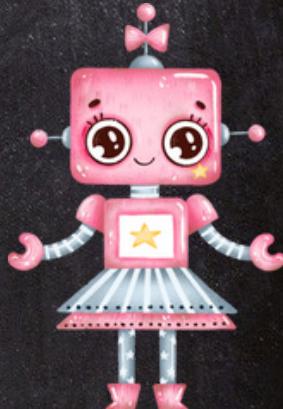
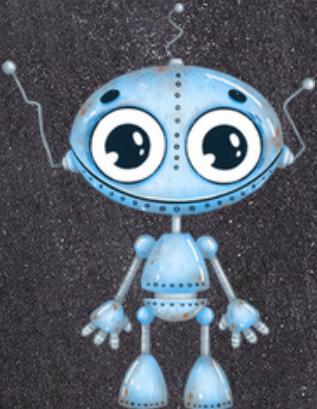
## ROBO SOCCER

### **OBJECTIVE:**

Design and build a manually controlled robot capable of competing in a one-on-one soccer match. Your bot must push or guide the ball into your opponent's goal without gripping or lifting it. Showcase your bot's agility, precision, and strategic gameplay to dominate the field.

### **TEAM:**

- Each team can have a maximum of 4 members.
- Only 2 members from a team are permitted inside the arena during a match: one will control the bot, while the other will handle the wires. These roles must remain fixed for the entire duration of the match.
- Every team must register with a unique name. *Vision* reserves the right to disqualify teams with names that are offensive, inappropriate, or duplicate. If a team wishes to change its name, the organizers must be informed immediately.

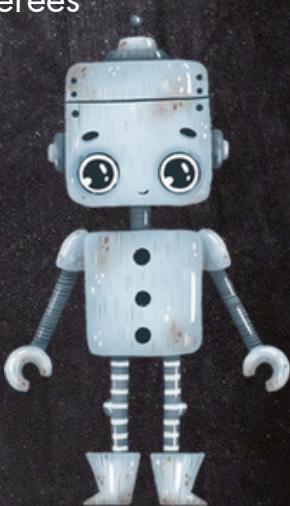


# **RULES:**

- Before the match begins, each bot will undergo a safety inspection. If a bot is deemed unsafe, the team must make necessary modifications or face disqualification. Organizers will verify all bots prior to the match and decide their eligibility based on the rules and size limits.
- Bots must remain as a single, unified structure and cannot split into multiple parts. At the start of each half, teams will be given 2 minutes to make adjustments or modifications to their bot.
- If a bot becomes immobile during the match, the team will be granted 1 minute to repair it without any penalty. If repairs extend beyond 1 minute, an additional 1 minute may be used but will result in a deduction of 1 point. If the bot is still immobile after this time, it will be disqualified.
- In case of wire entanglement between bots, the match will be temporarily paused. The timer will also be halted, and once resolved, play will resume from the same position.
- Bots may use non-flammable pressurized gases for pneumatic actuation, with a maximum nozzle pressure of 6 bar. Teams must provide a pressure gauge (integrated or temporarily fitted) to indicate system pressure. Hydraulics are strictly prohibited.
- Any bot that causes damage to the arena will be disqualified.

# **Fouls:**

- Incorrect positioning of bots after a goal or at the start of a half.
- Lifting the ball off the ground during play.
- Intentional ramming or causing damage to the opponent's bot.
- All referee decisions are final. In case of disputes, the judgment of referees or Vision event managers will be considered binding.

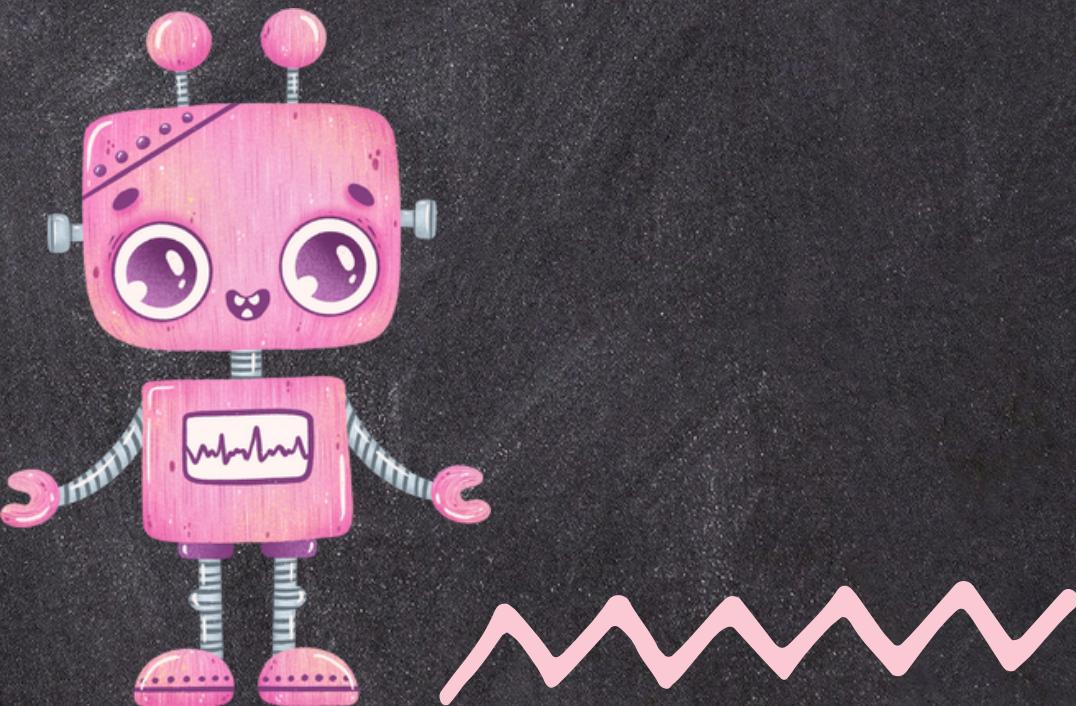


# BOT SPECIFICATIONS

- The robot must fit within dimensions of 250 mm x 250 mm x 250 mm (l x b x h), including all attachments, with a maximum weight of 2 kg.
- The robot should be controlled manually and must start only via a switch or remote-control button. No manual intervention is allowed after the start.
- The robot must remain in a single, cohesive structure and cannot separate into multiple parts.
- External control through a wireless system is permitted.
- Kicking and gripping mechanisms are allowed, but participants must not use mechanisms intended to entangle or damage the opponent's bot.
- The robot must have an electric power supply using onboard batteries, with a maximum voltage of 18V ( $\pm 5\%$  tolerance). An emergency manual disconnect switch is mandatory for safety.

# ARENA SPECIFICATIONS

- Arena Dimensions: 2 m x 1.5 m (turf or MDF base).
- Goal Width: 20–25 cm.
- Walls: Present on all four sides with a height of 10 cm.
- The playing surface will be a flat base, and a lightweight tennis ball will be used for the match.



# GAMEPLAY

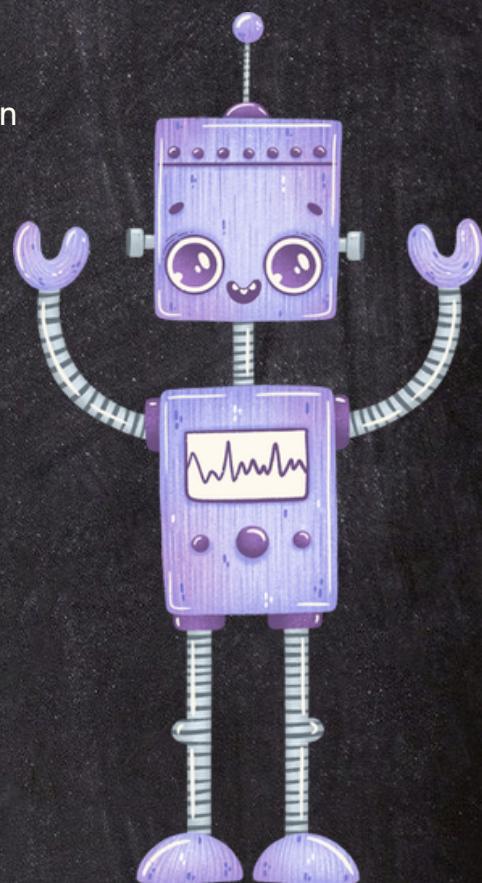
- Each match will be played in two halves, with the duration varying by stage:
- Knockout rounds: 2 minutes per half
- Quarterfinals & Semifinals: 2.5 minutes per half
- Finals: 3 minutes per half
- At the beginning of each half, the ball will be placed at the centre circle. The team winning the toss chooses whether to attack or defend first.
- The attacking bot starts from the centre circle, while the defending bot is positioned halfway between its goalpost and the centre line.
- After each goal, the ball will return to the centre circle, with both bots positioned above. The scoring team will defend, and the other team will attack.
- In case of a foul, play restarts from the centre circle. The non-fouling team attacks, while the opponent defends.

## Scoring & Match Rules:

- If a team reaches a 15-point lead, it will be declared the winner immediately.
- In the event of a draw, a 2-minute tiebreaker will be played with both bots starting at the centre circle. The bot scoring the most goals wins.
- If the tiebreaker ends with no winner, the golden goal rule applies—first team to score wins.

## Penalties:

- Bot blocks goal with body → -1 point
- Rough collision with opponent → Warning or Disqualification
- Out of control robot → Time-out or Disqualification



# SCORING

- Teams earn 3 points for every goal scored.
- The first penalty is excused, but each subsequent penalty results in a 1-point deduction.
- The winner is decided based on the total points scored

## VENUE: BASKETBALL COURT

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