The DEBI Robotics Challenge 2023 is a competition organized by the Digital Egypt Builders Initiative (DEBI) in collaboration with the Egyptian Ministry of Communications and Information Technology. The challenge aims to advance robotic software and autonomous capabilities.

Competition Overview:

- The competition is a one-vs-one match between robots in a predefined playground with two identical halves separated by a red line.
- Each half of the playground has three randomly placed balls with random colors.
- The main mission for each team is to reduce the number of balls in their area by moving them to the opponent's side.
- Robots must act autonomously during the match without human intervention.

Rules and Guidelines:

- Robots must be fully autonomous and cannot step onto or pass the red line or playground walls.
- If a robot crosses the boundaries of its side of the playground, it must start over from the initial position.
- The match duration is 10 minutes, and if no team wins, the match will resume for another 3 minutes.
- If the match ends in a draw after 13 minutes, a golden-ball scheme will be followed.

Rewards:

- The winning teams will receive financial awards:
- First place: 80,000 EGP
- Second place: 60,000 EGP
- Third place: 40,000 EGP

Important Dates and Location:

- Orientation Session: April 1, 2023 (online)
- Registration Deadline: April 2, 2023, at 11:59 pm (online)
- TurtleBot Workshop: April 3, 2023 (online)
- Competition Day: May 13, 2023 (in-person at DEBI Campus)

Eligibility Criteria and Team Formation:

- All participants must hold Egyptian nationality.
- All participants must be registered undergraduate students at any Egyptian University (from a relevant background).
- Graduates from no more than 5 years are allowed to participate.
- Each team must consist of 3-5 members, and teams with more than five members will not be allowed to participate.

Technical Specifications:

- DEBI provides TurtleBot 3 Waffle Pi equipped with OpenMANIPULATOR-X with installed configuration of Ubuntu 20.04 and ROS1 Noetic Ninjemys.
- Playground dimensions: 420 cm x 300 cm, walls height is 31 cm.
- Balls: diameter = 5.5 cm, Color = random.

Contacts:

- Please send your inquiries to robotics@debi.gov.eg.