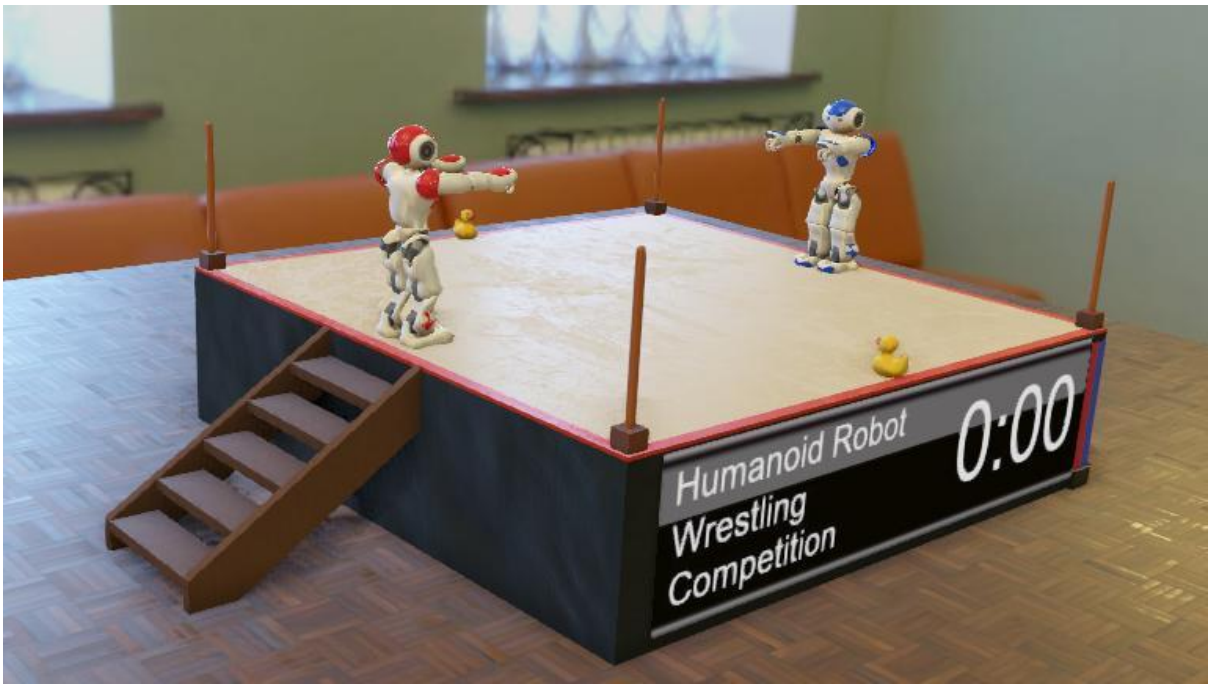
ICRA Robot Wrestling Competition

Program the AI of simulated robots in an online international competition.

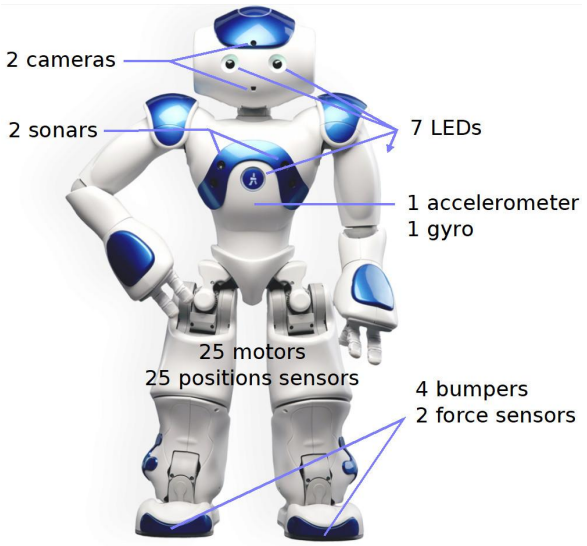
January 16th — June 2nd, 2023



The ICRA 2023 conference will take place from May 29th to June 2nd 2023 in London, UK, bringing together the world's top robotics researchers from academia and industry. During this event, several competitions are organized to foster new achievements in robotics. Among them, the wrestling competition will confront the best algorithms controlling intelligent humanoid robots in a wrestling game. Although the competition takes place in simulation, these little 3D guys are true digital twins of existing real robots named NAO. So their AI could transfer into the body of their real counterparts in a pretty straightforward way.

Digital Twin of a Real Robot

Each robot is equipped with a number of sensors and motors. These devices are available from the programming interface. So, the controller program can retrieve their measurements, such as camera images, process them, and send motor commands to drive the robot on its way to floor its opponent. Each participant can submit several versions



Leaderboard

Ranking	Country	Name	Updated	
1		Chrake Peith	02/02/2023 15:51:19	
2		SunflowerJRK	03/02/2023 07:38:21	View
3		pemile	03/02/2023 05:23:49	View
4		Sagwl	03/02/2023 12:20:04	View
5		Brice T.	03/02/2023 11:53:03	View
6		manuxd	03/02/2023 05:08:12	View
7		Mospaeda	03/02/2023 05:04:26	View
8		Mohammad Javad Zallaghi	03/02/2023 04:45:48	View
9		Shane Copenhagen	03/02/2023 04:28:33	View

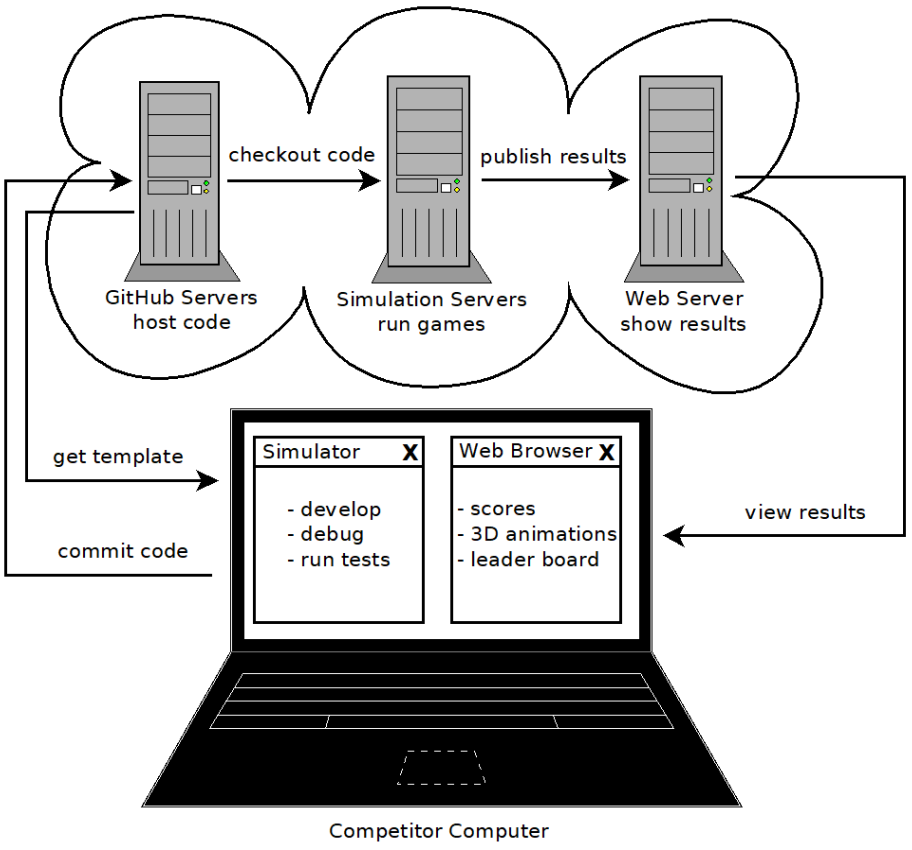
of its controller program. For each new submission, a series of games is run in the cloud. Everyone can view them immediately as 3D animations from the web page of the leaderboard.

All Shots Allowed

The goal for the little guys on the ring is to floor their opponent in less than 3 minutes. If none succeeds, the robot who covered the largest area wins. During the game, all shots are allowed, including using a stick or throwing a little plastic duck. Because these guys are sometimes so clunky, watching the games can be very entertaining.

100% Open-Source Software

The complete competition infrastructure runs on GitHub and fully relies on open-source software, including the Webots robot simulator. The participant workflow as depicted below is straightforward for any software developer and can be easily re-used to implement a similar competition.



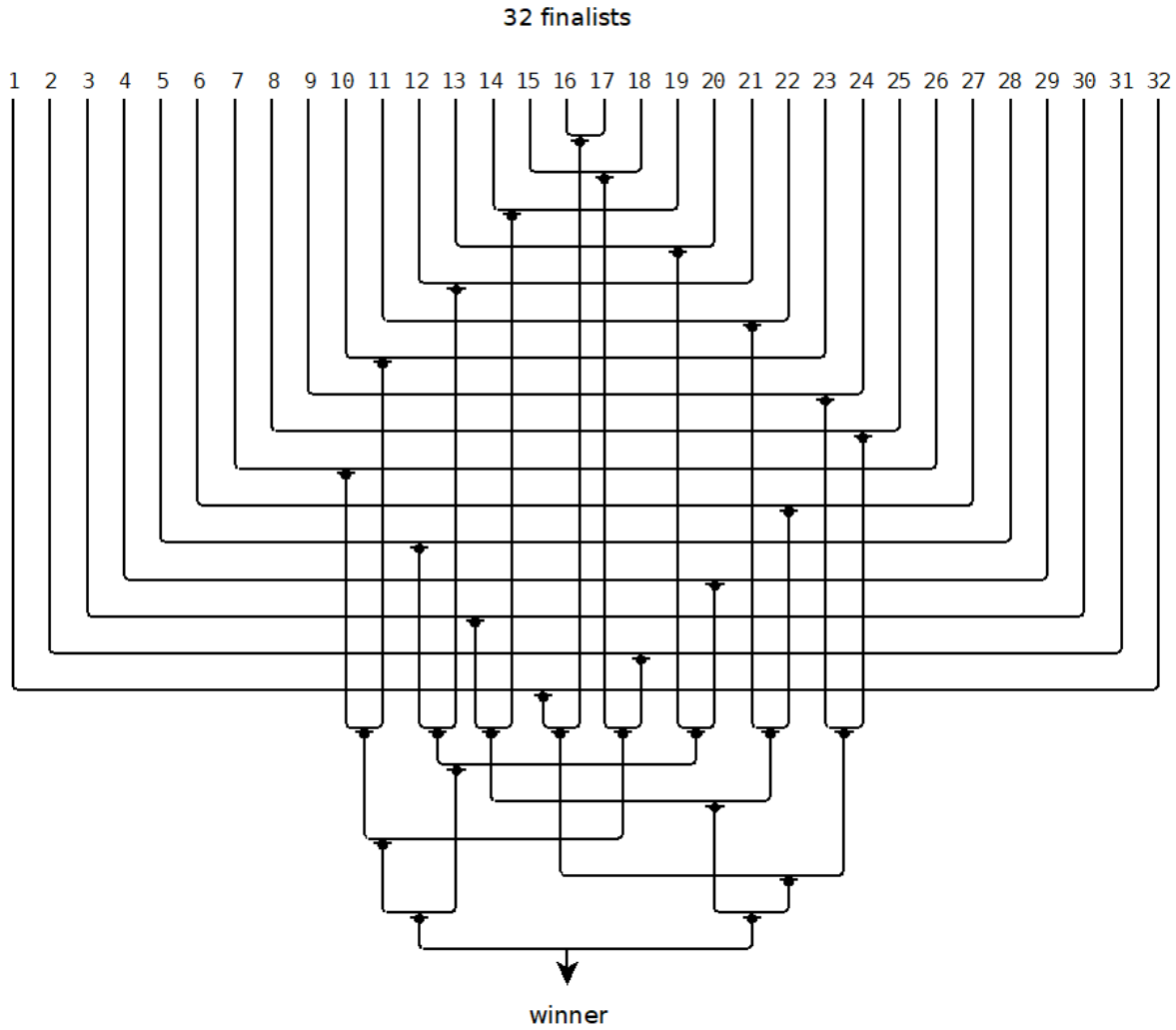
Open to Anyone

Although it requires some basic skills in software development, the participation is open to anyone. The robots can be programmed in Python, C, C++, Java or ROS. There is no limitation on the software libraries or programming languages that can be used. Participants can register until May 23rd, 2023. However, they are encouraged to register as early as possible to increase their chance of success.

Important Dates

January 16th, 2023	registration opens and qualification games start
May 23rd, 2023	selection of the best 32 teams
May 30th, 2023	1/16 finals
May 31th, 2023	1/8 finals
June 1st, 2023	1/4 finals
June 2nd, 2023	semifinals, third place game and final

The finals will take place during the ICRA 2023 conference in London and will be broadcasted online in real time. Remote participation will be possible.



And the Winner Gets...

The winner of the competition will receive one Ether crypto-currency. Although its value was USD 1'659 on February 3rd 2023, it may be completely different on June 2nd.

Fostering the Development of Open-Science

The competition is organized by Cyberbotics Ltd., a Swiss-based company developing the open-source Webots robot simulator. It aims at promoting the use of open-source software tools, including cloud-based simulations, to achieve incremental progress in robotics research. By relying on open-source software, running in virtual machines in the cloud, research results in robotics become easily reproducible by anyone. Therefore researchers can build their own research on the top of the results achieved by their colleagues, paving the way to incremental research in the spirit of open-science.

Links

GitHub home of the competition:	https://github.com/cyberbotics/wrestling
Website hosting the competition:	https://webots.cloud/competition
ICRA 2023 conference:	https://www.icra2023.org
Webots robot simulator:	https://github.com/cyberbotics/webots
Cyberbotics Ltd.:	https://cyberbotics.com

Author

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