
Survey response 18

Software

Team Name
ROBIT
Is your software fully or partially OpenSource. If so, where can it be found:
Our software is not OpenSource.
Do you have a kinematic or dynamic model of your robot(s)? If so, how did you create it (e.g. measure physical robot, export from CAD model)?
measure physical robot
Are you using Inverse Kinematics? If so what solution (analytic, (pseudo)inverse jacobian, etc...) are you using?
we use 6-axis Inverse Kinematics solution of HUBO.
Are you simulating your robot? If so what are you using simulation for?
We are using simulation for robot locomotion.
What approach are you using to generate the robot walking motion?
We are currently using a walk pattern generator, but we are in the process of developing alternative methods.
What approach are you using to generate motions for standing up?
p2p motion
What approach are you using to generate kicking motions?
p2p motion
Do you use any other motions than the previously mentioned? If so, what approaches are you using to generate them?
If necessary, we can use defending motions. and We use point-to-point motion for most actions, excluding walking.
Which datasets are you using in your research? If you are using your own datasets, are they public?
we use our private datasets. and it is not public.
What approaches are you using in your robot's visual perception?
Deep learning using Yolo v4-tiny
Are you planning with objects in Cartesian or image space? If you are using Cartesian space, how do you transform between the image space and cartesian space?
we use Camera calibration.
How is your robot localizing?
Monte-Carlo-Localization.
Is your robot planning a path for navigation? Is it avoiding obstacles? How is the plan executed by the robot (e.g. dynamic window approach)?
our robot is not planning a path for navigation.
How is the behavior of your robot's structured (e.g. Behavior Trees)? What additional approaches are you using?
Using our soccer algorithm
Do you have some form of active vision (i.e. moving the robots camera based on information known about the world)?
When the object to be located is not visible, the camera is rotated left and right.
Do you apply some form of filtering on the detected objects (e. g. Kalman filter for ball position)?
we use moving average filter and low pass filter for ball and lines position on field.

Is your team performing team communication? Are you using the standard RoboCup Humanoid League protocol? If not, why (e.g. it is missing something you need)?

Our UDP communication program. It is more convenient to use self-produced programs.

Please list contributions your team has made to RoboCup

Participation in a RoboCup 2019,2022 and 2023.

Please list the scientific publications your team has made since the last application to RoboCup (or if not applicable in the last 2 years).

We have not published an official scientific publication in the last two years.

Please list the approaches, hardware designs, or code your team is using which were developed by other teams.

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What operating system is running on your robot and which middleware are you using (for example Ubuntu 22.04 and ROS2 Galactic)?

We are currently using Ubuntu 18.04 and ROS1 Melodic, but we may switch to ROS2 in the first half of 2024.

Is there anything else you would like to share that did not fit to the previous questions?