Software Survey 2026

Team name

Beihang RoboCup Team

Which division(s) are you applying for? If your used software differs between divisions, please fill out the survey once per division.

Large Size (height < 190 cm, weight < 80 kg)

Is your software fully or partially OpenSource? If so, where can it be found?

Partially OpenSource, https://github.com/zitongbai/legged_lab

Are you using any software developed by other teams? If so, list every component that you are reusing and the team that originally developed it.

No

Are you using any datasets in your research? If you are using your own datasets, are they public?

AMASS dataset. Public with licence.

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

No scientific publications.

Are there any other contributions you would like to share with the RoboCup community?

Not now. There will be in the future.

Which approach are you using to generate the robot walking motion?

Reinforcement Learning.

Which approach are you using to generate other motions of the robot (e.g. kicking, standing up)?

Reinforcement Learning.

Do you have a kinematic or dynamic model of your robot? If so, how did you create it (e.g. measure physical robot, export from CAD model)?

Yes, we get its URDF from the unitree official repo.

What approaches are you using in your robot's visual perception?

YoLo11.

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?

In Cartesian space, with ROS2's tf system.

Do you have some form of active vision (i.e. moving the robots camera based on information known about the world)?

Yes, rotate the robot with the predicted motion of the ball.

What approach are you using to localize your robot?

Fastlio2

Is your team performing team communication? Which communication protocol are you using?

No communication between robots now.

What approach are you using for navigation? Are you avoiding obstacles?

Using the ROS2 nav package.

How is the behavior of your robots structured? (e.g. Behaviour Trees)

Behaviour Trees

Are you simulating your robot? If so, which simulator are you using and for what purpose do you use simulations?

Use IsaacLab for training and MuJoCo for sim-to-sim test.

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

Ubuntu 22.04 and ROS2 Humble.

Is there anything else you would like to share that did not fit any previous question?

Not.