Software Survey 2025

Team Name

ZJUDancer

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

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)?

yes, measure physical robot

Are you using Inverse Kinematics? If so what solution (analytic, (pseudo)inverse jabcobian, etc...) are you using?

yes, inverse

Are you simulating your robot? If so what are you using simulation for?

yes, gazebo

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

ZMP preview

What approach are you using to generate motions for standing up?

recording action

What approach are you using to generate kicking motions?

Recording the action through human teaching method.

Do you use any other motions than the previously mentioned? If so, what approaches are you using to generate them?

no

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

own

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

yolo

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?

Cartesian, By calibrating the extrinsic parameters and utilizing the camera projection matrix to solve

How is your robot localizing?

particle filter

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)?

no, it just walks straightly to targets

How is the behavior of your robot's structured (e.g. Behavior Trees)? What additional approaches are you using?

Behavior Trees. no additional approach

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

yes, the camera tracks the ball

Do you apply some form of filtering on the detected objects (e. g. Kalman filter for ball position)?

Kalman filter

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)?

no team communication

Please list contributions your team has made to RoboCup

Introducing more student in our university to the RoboCup

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

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

no

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

Ubuntu 20.04 and ROS1 noetic

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

If you have additional materials you would like to show, please link to them here.