RoboCup 2023 Submission Survey

Survey response 1

Software

Team Name
RoboFEI

Is your software fully or partially OpenSource. If so, where can it be found:
It is fully opensource, and can be found at https://github.com/RoboFEI

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)?
Kinematics for the smaller ones. We did id by CAD

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

Are you simulating your robot? If so what are you using simulation for?
Yes, Webots. For Reinforcement learning training

What approach are you using to generate the robot walking motion?
Central Gait Generator.

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

What approach are you using to generate kicking motions?
Point by point

Do you use any other motions than the previously mentioned? If so, what approaches are you using to generate them?
Yes, turning, different kicks. All made point by point by hand.

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

What approaches are you using in your robot's visual perception?
MobileNet DNN. but maybe move to EfficientNets and DetNets

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?
No planning at all :-)

How is your robot localizing?
Odometry

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, no.

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

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

Do you apply some form of filtering on the detected objects (e. g. Kalman filter for ball position)?
No

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

Please list contributions your team has made to RoboCup
We were the firt team to use NUC as central computing units, without the use of a microprocessor board to control motors (2014) We made the first robo fully 3D printed (2014). We introduced side kick - kicking to the side and not to the front of the robot (2016). We were the first ones to have spikes on the robot feet. Although, as it was stated to me before, we cannot prove this as there is no report from the competitions that could serve as a proof.

Please list the scientific publications your team has made since the last application to RoboCup (or if not applicable in the last 2 years).
Covid had make its mark on our team. no publications in the last year...

Please list the approaches, hardware designs, or code your team is using which were developed by other teams.
Our Hardware was inspired by Darwin-OP, and then by Robhan's robot. For communication we use bitbots code. lately we are not using any of those, as we are redeveloping our robots

What operating system is running on your robot and which middleware are you using (for example Ubuntu 22.04 and ROS2 Galactic)?
Ubuntu + ROS 2

Is there anything else you would like to share that did not fit to the previous questions?
Covid has very bad for our team. We have no communication, no localization, almos no behaviours, and this is a step back from whar we had, for example from 2016 to 2018 when we had 4 fully functional robots doing all of this...

If you have a description document of your software you would like to share, you may do so here.

filecount - If you have a description document of your software you would like to share, you may do so here.
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