

Progress report for week 11

Physics Simulation:

I fixed the bounce with spin(at least I think so).

Pose estimation:

I investigated the problem of pose estimation getting worse when the camera vector is close to being orthogonal to a table's edge.

First of all, the translation vector seems reasonable and the axis lengths fit the table really well, as can be seen in the images below.

Secondly, trying different PnP methods held no benefit.

Therefore, the lens distortion probably is the problematic thing here. I tried to undistort the image using `cv.calibrateCamera` and `cv.undistort` but that yielded some really bad results. I also applied distortion on a case where the pose estimation worked well before. The result of that was pretty good which makes me think that lens distortion only heavily effects the corner positions if the mentioned 90° angle to the table is given.





Evolutionary algorithm:

I started writing code for the evolutionary algorithm using my physics simulation.

Questions:

How to detect when a new trajectory starts and ends (racket hits)?

Is the orientation relevant?

Better initial population than random?

Notes:

Typo in bounce formula(page 10)