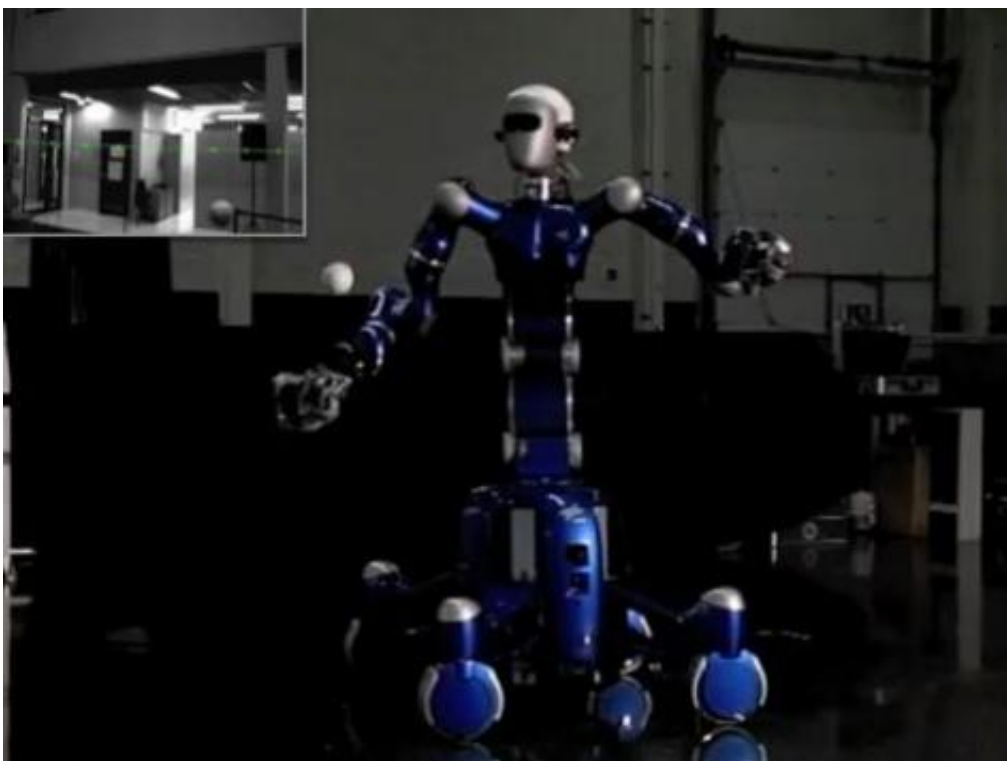


## Ball catching robot, 80% accuracy in 5 milliseconds (w/ video)

April 29 2011, by Katie Gatto

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(PhysOrg.com) -- DLR, an aerospace agency based in German, has modified its flagship robot, known as the Rollin' Justin, in order to make it into a lean, mean, catching machine. The Rollin' Justin's modifications allow the machine to catch balls that are thrown in its direction with an accuracy rate of about 80%. The Rollin' Justin's robots accuracy rating is

better than the average uncoordinated human. It is certainly better than this reporters accuracy rate. It is not as good as say, a Major League Baseball player, but then again most of us cannot say that we are as good as the pros either. Considering they also have near unlimited stamina, at least until the battery runs out, it may be a great partner for the standard game of catch, or for the position behind the batter.

The machine can actually catch up to two balls at once, and while this may not sound like a lot on paper, but just try doing it in the back yard. It is not exactly an easy task. The [robot](#) will, when the balls are released, calculate the flight path of those two balls, and then position its hands into a catching position that is within 2 centimeters of the point where the ball is expected to be, in about just 5 milliseconds. The system does work with the help of external computers. They are needed in order to handle the processing and make the calculations possible in real time.

The Rollin' Justin weighs about 45kg , and it is equipped with a 3D camera system that allows it to pinpoint the objects distance, which needed in order make the calculation. The robot is built with 43 joints, with 5 in his torso, 7 in each of the arms, and 12 in each hand. It is also equipped with a total of 84 sensors.

**More information:** [elib.dlr.de/67146/](http://elib.dlr.de/67146/)  
Via [IEEE](#)

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