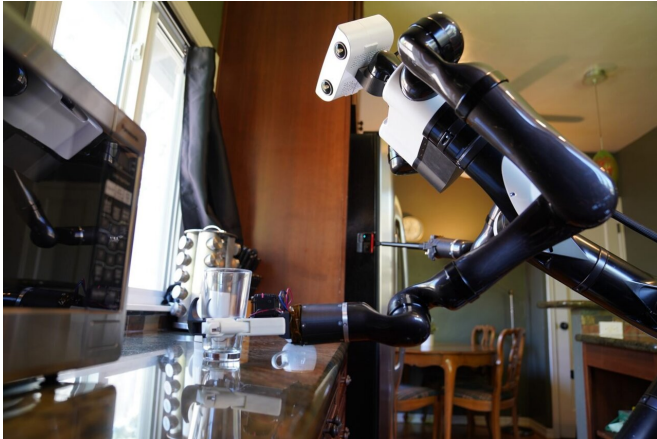


Toyota announces new capabilities for domestic robots

22 June 2021, by Bob Yirka



Credit: Toyota Research Institute

Toyota Research Institute (TRI) has announced on its press blog that engineers with the company have developed new capabilities for its line of domestic robots. The new capabilities include recognizing and manipulating transparent objects and wiping down counters and tables. In the video accompanying the announcement, a robot grabs a smartphone off a table and uses it to take a selfie video as it carries on with cleaning a kitchen.

Toyota and other robotics companies in Japan have made clear their plans to create robots that will serve as domestic helpers in the coming years. Japan, notably, has one of the oldest populations and expects that there will be as many people over 65, as under by the year 2040. To address the aging problem, the robotics companies have been working to build robots that will be able to do the work that people find more challenging as they get older. To that end, engineers in Japan and other countries have designed robots that can sweep floors, vacuum carpets and even fold clothes. In this new effort, the team at TRI has tackled one of the difficulties that [robot](#) engineers have been facing—how to recognize and deal with transparent

or shiny objects.

In their announcement, Vice President Of Robotics Max Bajracharya explains that engineers at TRI developed a new way to train robots to better understand the nature of 3D scenes while also taking into account objects and surfaces in that scene. This, he further explains, allows the robot to use synthetic or "programmable" data to make sense of objects that have reflections or that are transparent.

This capability, as noted in the [video](#), allows the robot to recognize a tabletop and all of the objects sitting on it. And that allows the robot to wipe down a table after a meal, which includes picking up and holding an [object](#) while wiping the table beneath it—including transparent glasses. The robot is capable of moving objects to the sink for cleaning and can also wipe down countertops.

More information: Toyota Research Institute Reaches New Technical Milestones in Robotics: [pressroom.toyota.com/toyota-re ... estones-in-robotics/](https://pressroom.toyota.com/toyota-reaches-new-technical-milestones-in-robotics/)

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