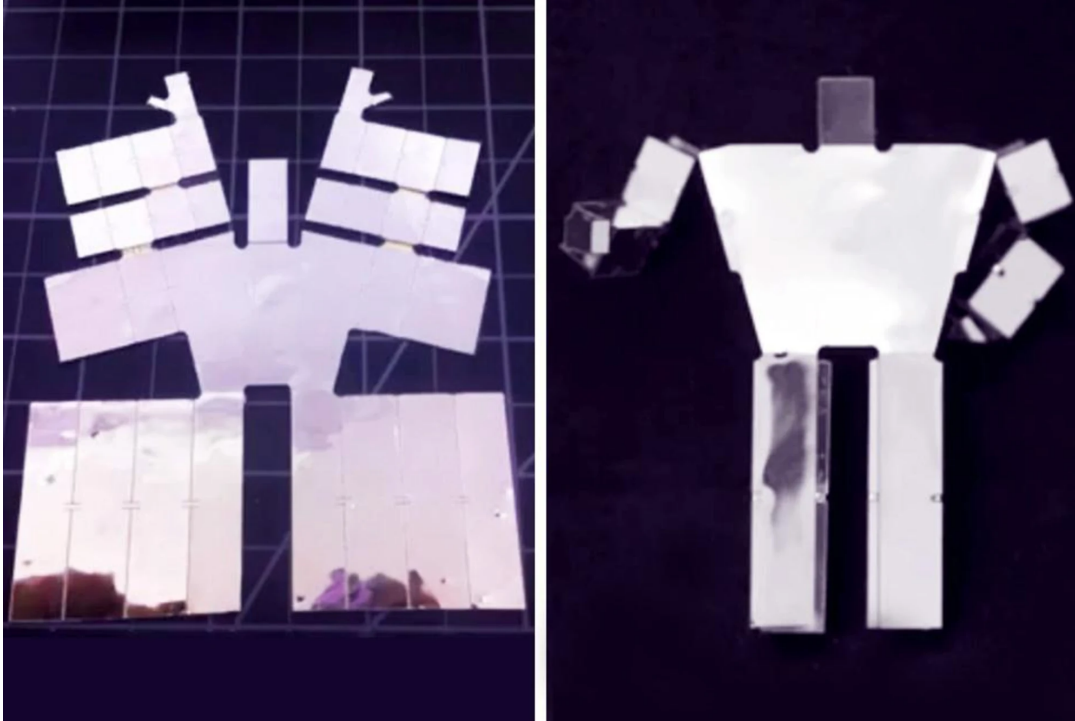


INNOVATION

Right Out of the Oven: MIT Scientists Bake Self-Building Origami Robots

The future could be filled with robotic Shrinky Dinks that you can make at home.

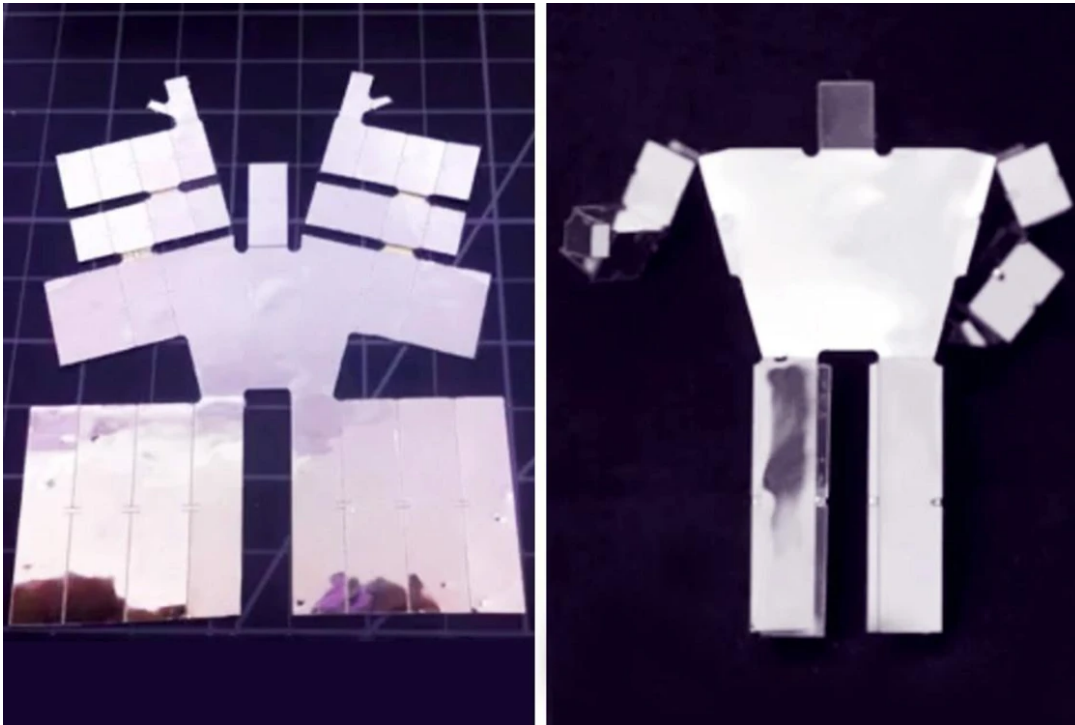


— MIT

May 30, 2014, 1:06 PM EDT / Updated May 30, 2014, 1:06 PM EDT

Forget baking cookies. Scientists are working on robot parts that fold into three-dimensional shapes when heated.

Think of it like origami that builds itself. Instead of paper, these robots are made with a plastic used in a common childhood toy: Shrinky Dinks.



MIT

The technique is being presented in two papers next week at the IEEE International Conference on Robotics and Automation in Hong Kong.

"If you have a printer at home and some scissors, you could in principle take the design files from our software and cut out your own robot," Daniela Rus, a professor in electrical engineering and computer science at the Massachusetts Institute of Technology and co-author of both papers, told NBC News.

The Shrinky Dink material is sandwiched between two other layers of material – say Mylar, or polyester – and is popped into the oven. The trick is figuring out how to cut the two outer layers in just the right way so that the plastic in the middle folds in the perfect angles to create a specific shape.

Bake your own robot



The MIT lab is not creating human-sized robots ... yet. That is because the pop-up bots are limited by the size of their heat source, in this case, a toaster oven.

Ultimately, however, the robots could be "as big as your oven can sustain," Rus said.

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Right now, her team is only printing the mechanical parts and adding the electric components later. But eventually she can see a world where people can use an algorithm to analyze an image, create blueprints and print out fully functional robots. This could be a big deal in manufacturing, health care and, yes, toys.

"Say you want a robot bunny," she said. "You show the system a picture of that bunny, and the system is able to parse that image and print an unfolded, two-dimensional version of that image."

Let it bake in the oven and, voila, you just saved yourself a trip to the toy store. Shrinky Dinks, origami, bunnies? The future has never been so adorable. 

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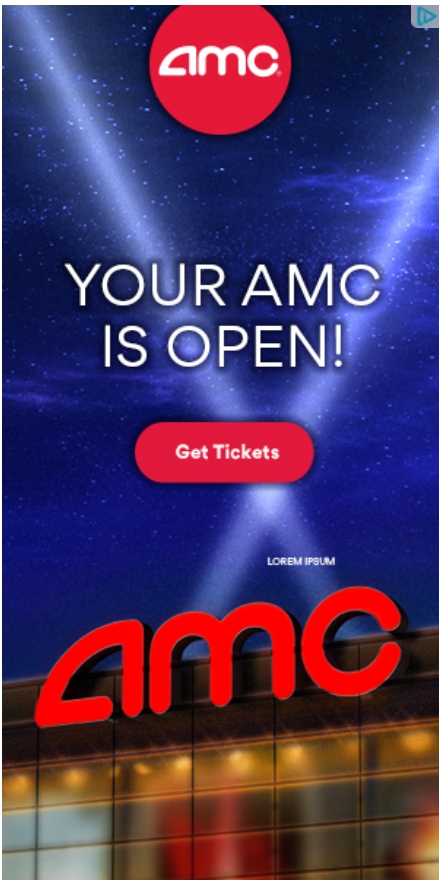
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