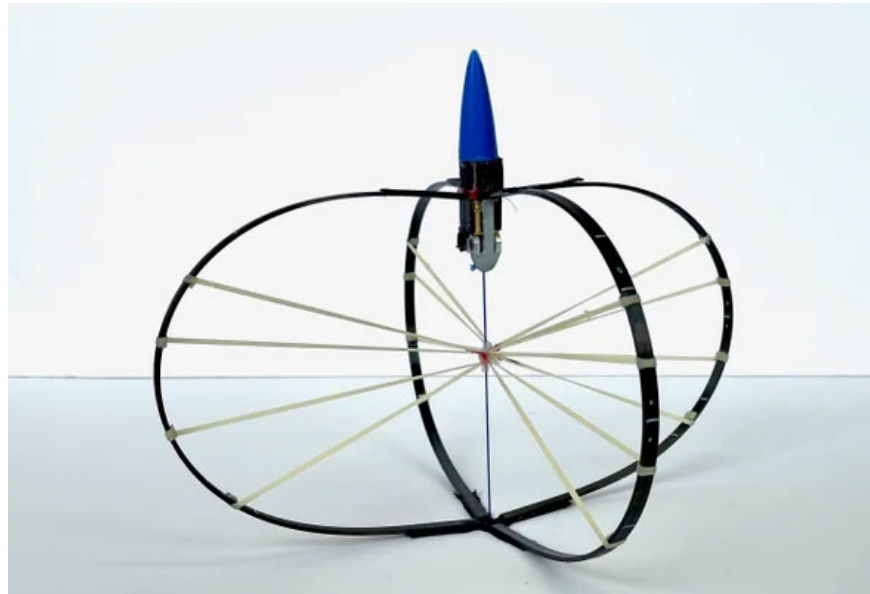


The highest jumping robot on the planet, 30cm from the ground into the air, higher than all machines and living creatures

A team of engineers at the University of California have successfully built a record-breaking high-jumping robot that is not based on any animal prototype.

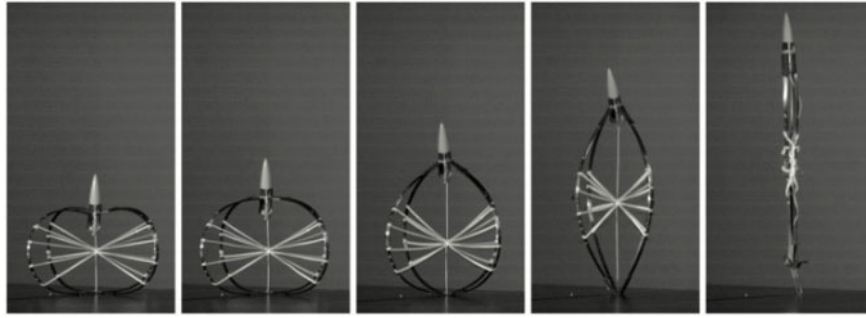
A team of engineers at the University of California have successfully built a record-breaking high-jumping robot that is not based on any animal prototype.

It is a 30cm robot that can jump into the air 100 times its length, about 30 meters, with a launch speed of 28 meters per second. This is something that no previous design has achieved, even higher than the best biological jumpers.



To enable the robot to achieve such a high jump record, the researchers designed it with a spring-based jumper, with a part called an actuator that moves and stores energy in a spring. When the spring is released, it pushes the robot into the air.

The drivetrain in this robot is equipped with a motor - which can rotate multiple times before each jump, helping to continuously store more energy.



Additionally, the robot's springs were designed to hold as much energy as possible without carrying too much weight. The researchers created a device that weighs just 30 grams, but its entire structure acts as a spring, with no excess parts sticking out. This maximizes the robot's energy density.

The research team developed this record-breaking high-jumping robot for space exploration missions.

A jumping robot will certainly be faster, more durable, and able to operate in harsh conditions than a walking wheeled robot or a flying drone.

Jumping allows robots to overcome obstacles in their path and is a great way to explore their surroundings, said Sarah Bergbreiter, a mechanical engineer at Carnegie Mellon University.

The researchers say the robot could jump even higher in the environments of other planets or celestial bodies, with thinner atmospheres and lower gravity than Earth.

For example, on the moon, a jump of this robot can reach a height of 125 meters and jump up to half a kilometer.

The team is currently working with NASA to develop a new version of the jumping robot with many upgrades for extraterrestrial exploration purposes. A perfect version of the jumping robot is expected to be launched in 2027.

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