This is the first GIF image to be stored on a microbe

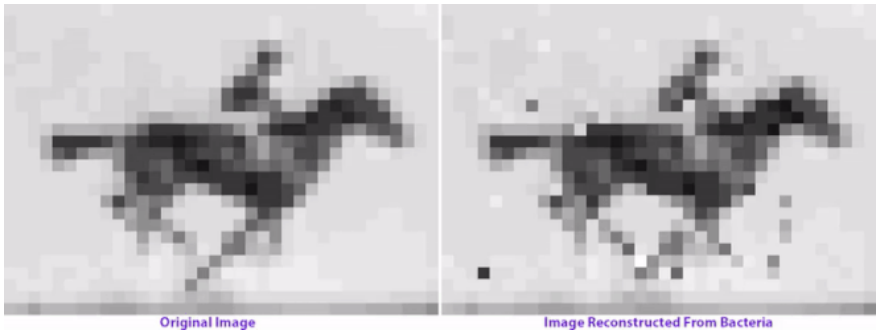
The researchers gave GIFs of a person riding a horse, including a total of five frames into a living bacterium.

In the future, when DNA is used as a place to store data, current hard drives will have to be ignored. With this "natural storage device", we will never have to bother with the huge storage of photos, music, and movies of up to hundreds of GB, even that huge data store will Follow you wherever you are because it is DNA itself.

1. Found a way to "copy" knowledge directly into the brain like science fiction movies

The scenario that seems only in these sci-fi films will probably happen in the future. To prove that, scientists at Harvard used the CRISPR genetic modification system to introduce an animation into a genome of a bacterium Escherichia coli (E. coli species). Each individual pixel of the image is converted into nucleotides, the foundation bricks form a DNA.

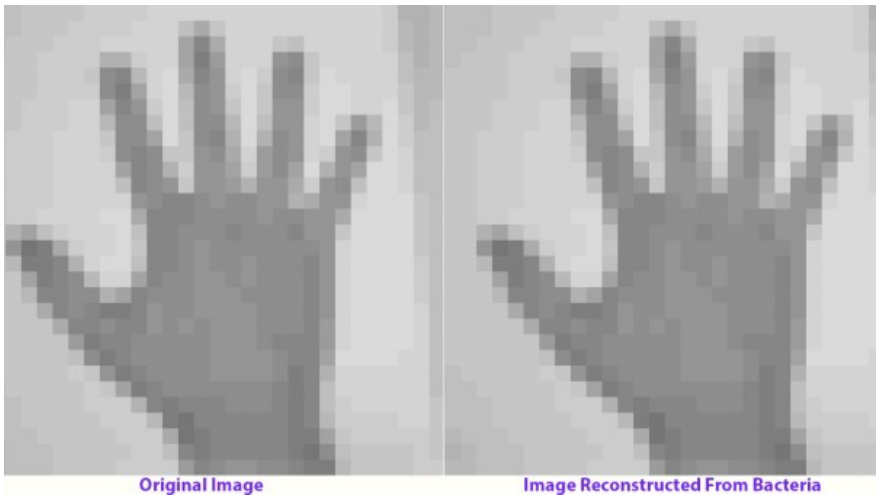
The researchers gave a GIF of a total of five frames to a living bacterium, about a horsebacker photographed by a British photographer, Eadweard Muybridge. By rearranging the DNA sequence of the bacteria, they can extract the data and through reading the pixel codes in the nucleotide, the animation is reconstructed with an accuracy of up to 90%.



On the left is the original image, on the right is a photo recreated from bacteria.

Yaniv Erlich, a computer scientist and biologist at Columbia University after watching the study, said that this visual method could not only be applied to bacteria but could be applied to Information and data into living cells and in the future is on human cells.

According to him, anyone's DNA can be used to store information and become an extremely efficient USB data storage device. Evidence is that scientists can get data from DNA that lasts thousands, even millions, of years.



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Until now, scientists have done a lot of research on using DNA as a 'drive' to store data, but all are based on synthetic DNA. And this tiny 36 x 26 pixel GIF image is no exception, even the amount of data is much smaller than the record that scientists can store on a previously synthesized DNA. But uploading data to a living cell is a thousand times more difficult than putting data into a synthetic DNA, because living cells continuously move, change, divide and die.

According to Erlich, storing data in living cells has the advantage that information will be better protected. In some cases such as extremely high ambient temperatures, a nuclear explosion, when exposed to radiation, there are still bacteria that can survive.

Seth Shipman, a scientist working at Harvard, who led the experiment, added that he not only wanted to use DNA to store data but also wanted to use it to create "living sensors", can record what happens inside the cell and the environment around them.

Currently, this technology is an effective research tool to help scientists record very small events, occurring at the molecular level, from which they can observe the evolution and evolution of these Different types of cells that humans have not yet discovered.