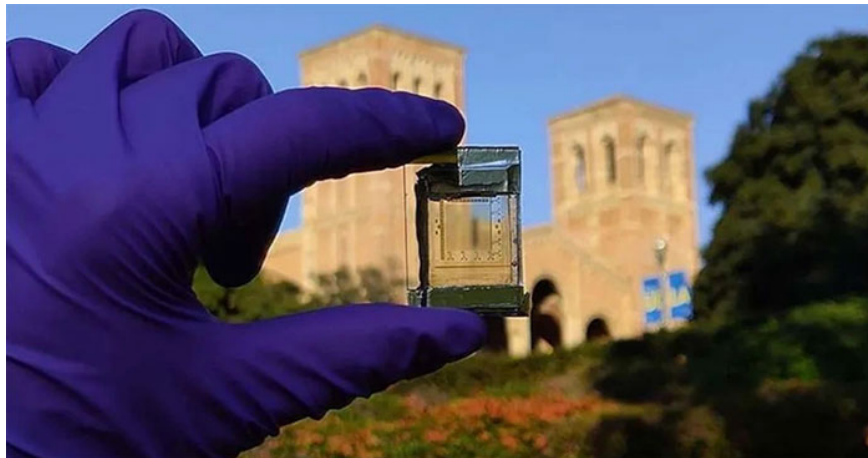


The chip turns old smartphones into super good cameras

A smart filter that can turn low-quality photos taken with cheap smartphone cameras into sharper photos was developed by a team of scientists at the University of California at Los Angeles (UCLA), USA.

A smart filter that can turn low-quality photos taken with cheap smartphone cameras into sharper photos was developed by a team of scientists at the University of California at Los Angeles (UCLA), USA.

The filter can adjust ambient light thanks to being made from 2D semiconductors. This makes it possible to improve the quality of photos taken from low-cost cameras.



The filter is a transparent chip measuring 1x1cm and only a few atoms thick. Each of the 10,000 pixels in the filter is what the team calls a "photonic neuron."

Each filter is composed of a transparent phototransistor (light-sensitive semiconductor device) and a liquid crystal modulator, connected to a series of electrodes.

To selectively reduce highlights or glare, the filter reacts to the light in the environment and adjusts the pixels to make them transparent or opaque.

In experiments, the research team attached filters to smartphone cameras to reduce glare and improve smartphone image quality.

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Aydogan Ozcan, professor of computer and electronics engineering at UCLA, co-author of the study said, 'A cheap device just a few centimeters can turn a low-resolution camera into a super-resolution camera making it easy for everyone to access to higher resolution sensors and images'.

Research on the device was published in the journal Nature Communications.

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