Monitor your blood pressure with selfie photos, why not?

Many of the sudden deaths caused by high blood pressure are preventable if diagnosed early.

A group of scientists from Canada and China is currently studying a revolutionary new way of monitoring blood pressure: Through selfie photos.

Accordingly, the team consists of scientists from the University of Toronto and the Hangzhou University University Hospital, cooperated for a long time, and just published a proof of concept. Detailed proof of concept about the method that allows smartphone users to monitor blood pressure just by shooting a short video. This approach may seem quite irrational and unrelated, but under the explanation of the scientists, the prospect of practical application of this measure of 'extreme' blood pressure is extremely bright. .

1. IBM researchers analyzed breast cancer cell structure with AI

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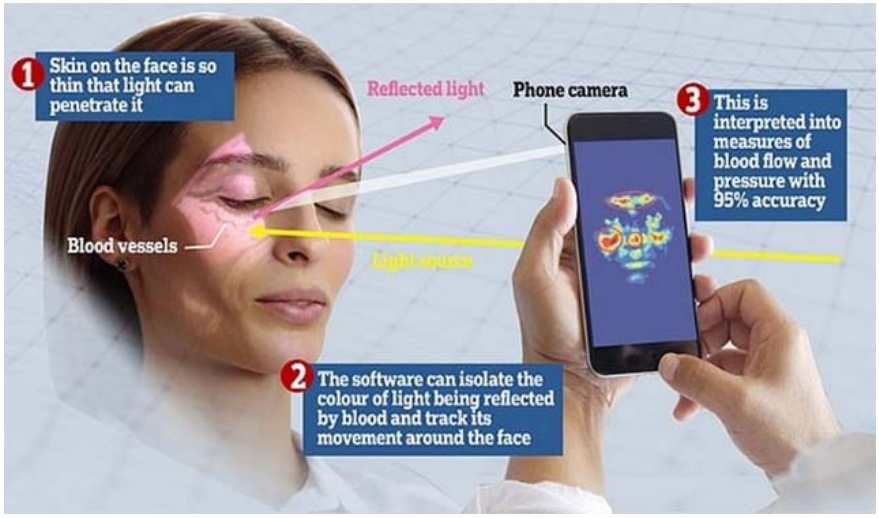
'Basically, we will use a special technology called optical imaging, which can work through organic matter, including human skin,' Kang Lee, the psychologist. Developmental physics at the University of Toronto and at the same time the head of the research team, said.

The core idea of ??the scientists in this project is to use a special type of light, emitted from the smartphone camera to detect proteins under the skin. Basically, the light emitted from the smartphone's camera will turn on the protei near the skin surface at different speeds. Prominent among them will be hemoglobin (also known as hemoglobin), a protein that is abundant in blood solutions.

By observing all the slightest changes in hemoglobin throughout the video with hundreds of frames, the researchers were able to obtain blood pressure readings. However, to do this will require the help of intensive machine learning algorithms. Thanks to the help of these AI models, the team was able to translate measurements that the particular type of light collected into several health indicators, including blood pressure. And according to the initial test results, this model can give volunteers the ability to receive blood pressure readings with an accuracy of up to 95% in most of the time.

1. AI uses tweets to help researchers analyze the flood situation

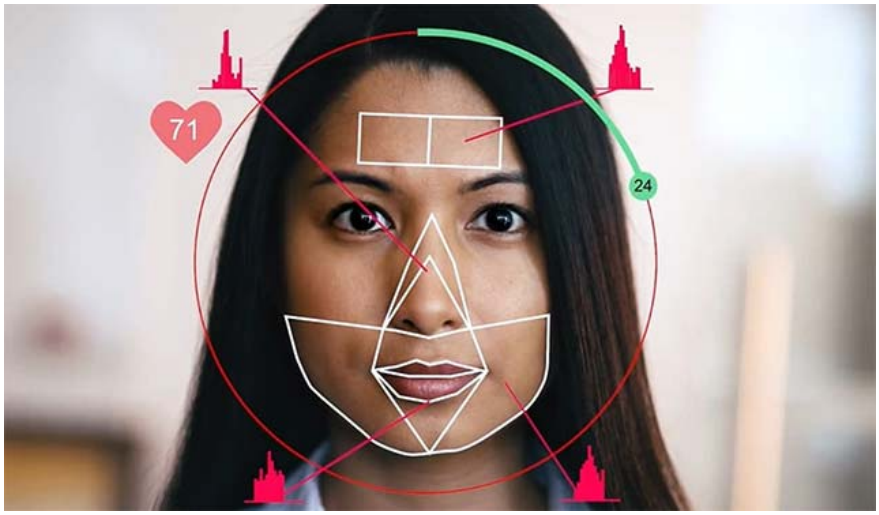


Collect information about blood proteins to determine blood pressure readings

However, there is also a noticeable problem: color, or rather, skin pigmentation can significantly influence the accuracy of the measurements. In the first round of testing, there were 1,328 volunteers participating, but most of them were of East Asian descent or from Europe. Scientists are concerned that this proof of concept may give more inaccurate results when tested on African or colored skin.

Theoretically, tests will be conducted in the same manner across all skin colors. However, scientists are considering the variation in light measurements for certain proteins commonly found in yellow or white skin such as hemoglobin. It is not clear whether the same measurement can work correctly with other proteins, such as melanin, which is commonly found in people with darker skin.

1. Google AI application in detecting eye diseases



The difference in skin color can significantly affect blood pressure readings by this method

It is not possible to confirm whether skin color differences may have a positive or negative effect on this blood pressure measurement. Anyway, tests on individuals with different skin tones were conducted to demonstrate whether the optical-based blood pressure measurement could maintain a high level of accuracy. Kang Lee and his team also acknowledge that they will need to test this method on different skin colors in the future.

If it can prove a positive result in practical use, this will be a cheap, convenient and suitable blood pressure measurement method for all individuals, especially those without access to periodic health care services.

High blood pressure, also known as hypertension, is the number one cause of a range of heart-related dangerous diseases such as heart attack or stroke, causing millions of deaths worldwide each year. . According to the US Centers for Disease Control and Prevention (CDC) study, hypertension is the culprit causing the deaths of more than 1.1 thousand Americans every day. In addition, the rate of people with high blood pressure is increasing and rejuvenating with alarming rates worldwide. However, the problem is that not everyone knows the information about their illness, while early detection is an extremely important factor in the treatment and screening of high blood pressure.

1. Successfully developed self-propelled bicycles using AI chips capable of reasoning and learning like humans

Hypertension is a major cause of stroke, heart attack

Many of the sudden deaths caused by high blood pressure are preventable if diagnosed early. Positive changes in diet, exercise, medications, or alternative therapies have been shown to be effective in reducing the risk of health risks associated with hypertension. . Along with that, constantly monitoring blood pressure indicators to have timely intervention will play a role as one of the prerequisites.

1. How did AI affect daily life?