

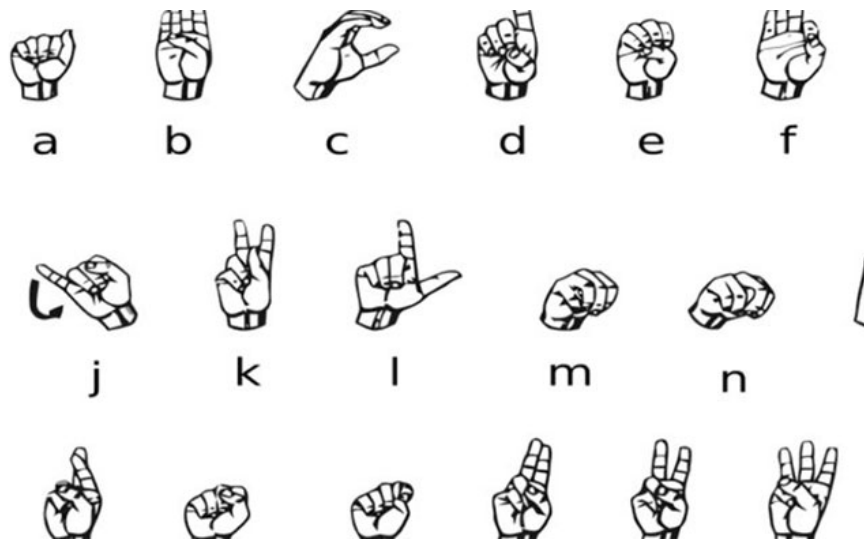
New technology beyond helps sign language barriers

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Good news for the deaf community in the early months of 2019. Recently, Michigan State University engineers have succeeded in developing and applying for a patent for a language support technology. Breakout symbols - unlike previous translation mechanisms - are non-invasive, compact and portable like a Chapstick lipstick.

'We are proud to announce that we have succeeded in bringing a superior sign language translation solution, a reliable companion for those who unfortunately cannot hear. How can deaf people communicate effectively with someone who doesn't understand sign language? This new technology is the solution, it will act as a virtual, personal interpreter that they can take with them anytime, anywhere, "said Mi Zhang, associate professor of electrical and computer engineering. calculated the University of Michigan, the research director said.

According to statistics, there are hundreds of thousands of hearing impaired or sufferers of hearing impairment based on American sign language system, or ASL, for daily communication. The problem is that, if there are no interpreters, they will not have the opportunity to find suitable jobs, and sometimes have trouble in sensitive situations, making these people inherently disadvantaged in life becomes even more disadvantaged.



1. Smart toilets can help protect users against heart failure

Suppose, think about whether you are deaf, in the hospital and need to contact the doctor, you will have to wait for the interpreter to sign the hospital's or your loved one's language. Or worse, no one can understand the message you try to convey, which can lead to real tragedies, harm your privacy, or even be dangerous. live. This

is just a small example of the important need for sign language translation technology.

Associate Professor Zhang and colleagues, including Dr. Biyi Fang and several other experts from Jilian Co University, have seen and successfully implemented an opportunity to help deaf people overcome barriers in communication and having an easier life. Specifically, Mi Zhang's technology and colleagues are called DeepASL, which are applied to deep learning or data-based learning, inspired by the structure and function of the brain along with related algorithms. Through it, you can automatically recognize the meaning and translate the symbols into English.



The technology works via a 3-inch sensor, developed by Leap Motion, and will, of course, be equipped with cameras to record hand and finger movements continuously as well. Use sign language.

"The sensor will simulate and convert the movement of a person's hand and finger into a structure of joints. After that, our deep learning algorithm will collect data from joints that Leap Motion collects and analyzed, compared with ASL symbols", explained Mr. Mi Zhang.

1. How can IoT help you enjoy 4.0-style meals?

Similar to Siri settings on iPhone, users can sign certain words to the algorithm and sensors get used to their hand and joint movements. In addition, users can also create custom signs for their names, or words that are not in the dictionary by spelling them, making it easier and more comfortable to communicate.

One feature that makes the difference of DeepASL is that it can translate complete sentences without requiring users to pause after each symbol, while previous sign language translation technologies are only available. can translate words and therefore, users will have to pause between symbols, very inconvenient, time-consuming, and can even lead to misunderstandings, making conversations difficult and awkward in some situations.

"In addition, our technology is not invasive to users. Unlike some other interpreting technologies that require users to wear gloves, making them feel marginalized because others can see it. your disability literally".

In addition to being able to help deaf people communicate with people around, DeepASL can also help ASL learners by providing real-time feedback on their notation. Previously, self-study through instructional videos contained many limitations.

"About 90% of children with congenital deafness communicate with their parents through sign language. These parents are learning sign language to communicate with their children but often do not have time to attend classes. studying directly, so self-study will face many difficulties. Our technology can provide assessments to help learners improve quickly," said Zhang.



1. Generating electricity from WiFi promises that the future of smartphones without batteries still works well

The mechanism of operation of DeepASL technology is to convert the sign language into a verbal conversation, which is generally useful in many situations, not just to support deaf people. The researchers said the next step for the new technology would be commercialization, making it possible for hundreds of thousands of deaf people to need a smart, compact interpreter. With the retail price expected to be around 78 USD, this device can completely become a reasonable choice for those who are not too surplus. In addition, the team also plans to develop this technology to be compatible with the iPhone, as well as learning the different sign languages ?? themselves.

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