Gadget that 'reads' sign language aloud

Nirma University students use motion sensing technology that tracks hand gestures and translates it into audio and readable text

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Seeing a hearing impaired youth struggle to communicate at a conference opened 22-year-old Utsav Shah's eyes to the difficulties faced by the differently abled. A student of Instrumentation and Communication at Nirma University, he decided to rope in his classmate Darshan Shah to create a device that can give the hearing impaired a chance to communicate with ease. The result: Speaking Hands, a gadget that translates sign language gestures into audio and readable text.

Recollecting the event that gave birth to the idea, Utsav says, "During a conference in 2013, I saw a hearing impaired person trying to have a conversation with others. He was in need of an interpreter but there was no one around. That is when Darshan and I thought to create something which would utilize a computer to interpret sign language."

Darshan says, "Sign language is a great method for the hearing impaired to communicate, but unless everyone around is fluent in the visual language, it is not of much help. We decided to create a gadget that can detect motion and gestures associated with sign language, and translate these into audio, or text."

SHARAD KUMAR

Utsav Shah and Darshan Shah used Leap Motion sensor device to create the gadget

He adds, "I used Leap Motion, a sensor device that tracks both hands and all 10 fingers with pinpoint precision and incredible speed.

"The sensor supports hand and finger motions as input, analogous to a , but requires no hand contact or touching. We fed in the American Sign Language to convert the signs into voice. You can even program your own gestures."

The students now plan to approach institutions that work for hearing impaired. "We shall be meeting a couple of institutes to understand how we can better this gadget and help them," says Utsav.

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