

Real-Time Numerical 0-5 Counting Based on Hand-Finger Gestures Recognition

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Abstract

A well Pointing out by hand for originating some gestures is highly useful in terms of human computer interactions especially when mute people desire to speak something, here a difficulty is raised by delivering their message to the outside world. Therefore, these people can do easily some tasks by drawing a gesture in air using their hands in front of a computer camera which translates these gestures to a speech or text to be understood by other people. Part of hand gesture recognition is counting by hand. This paper proposes a new technique describing hand gesture numerals which are from 0 to 5 that are pointed out by people to be understood by a computer. The technique is implemented by reading a frame as an image then extracting only hand by using YCbCr colour space filter. Then, it is converting to black and white image. After that, number is assigned to a gesture by counting number of flip as white to black from left to right on an intelligently selected path to be scanned on. The experiment was conducted using 180 random hand gesture frames taken from random people, the result of this recognition rate is recorded as 98%.