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Image based counting system

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Abstract : Literature review revealed a novel approach to count objects in an image when the objects appear in stacks . Normally the digitized image may contain spurious noise pixels and irregularities in the outer boundary of the characters and may have undesired effects on the recognition system . For removing these noise pixels a simple and efficient method of rank Order Median Filter has been applied. In order to count the objects we segment the image based on the edges in the image. First the negative transform is applied to make the edges clearly visible . Then the wavelet transform is used to get only the needed information . This transform is extremely useful when analyzing time varying or non - stationary phenomena that are commonly found in images . the wavelet transform uses its multi -resolution capability to decompose the image into multi frequency bands denoted by LL, HL, Lh and HH after one level decomposition . Then a Fuzzy c-means (FCM)algorithm is used for clustering the image into two regions . Then a histogram is constructed for the clustered image . Then a efficient peak finding algorithm is employed to identify the most significant peaks of the histogram . Each peak identified is an object and all such peaks are counted to find the real objects of the image . Experimental results show that the proposed method is efficient for counting the objects in an image and 99% accuracy is achieved.