Recognition of Grocery Products in Images Captured by Cellular Phones

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Abstract : In this paper, we present a robust algorithm to recognize extracted text from grocery product images captured by mobile phone cameras. Recognition of such text is challenging since text in grocery product images varies in its size, orientation, style, illumination, and can suffer from perspective distortion. Pre-processing is performed to make the characters scale and rotation invariant. Since text degradations can not be appropriately defined using wellknown geometric transformations such as translation, rotation, affine transformation and shearing, we use the whole character black pixels as our feature vector. Classification is performed with minimum distance classifier using the maximum likelihood criterion, which delivers very promising Character Recognition Rate (CRR) of 89%. We achieve considerably higher Word Recognition Rate (WRR) of 99% when using lower level linguistic knowledge about product words during the recognition process.