



Visvesvaraya Technological University, Belgaum.

A PROJECT REPORT ON :

TEXT EXTRACTION FROM NATURAL SCENE IMAGES

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ABSTRACT

A system is being proposed that reads the text encountered in natural scenes with the aim to provide assistance to the visually impaired persons. The work describes the system design and evaluates several character extraction methods. Automatic text recognition from natural images receives a growing attention because of potential applications in image retrieval, robotics and intelligent transport system. Camera-based document analysis becomes a real possibility with the increasing resolution and availability of digital cameras. However, in the case of a blind person, finding the text region is the first important problem that must be addressed, because it cannot be assumed that the acquired image contains only characters. At first, this system tries to find in the image areas with small characters. Then it zooms into the found areas to retake higher resolution images necessary for character recognition. In the present work, we propose four character extraction methods based on connected components. The performance of the different methods depends on character size. In the data, bigger characters are more prevalent and the most effective extraction method proves to be the sequence: Sobel edge detection, Otsu binarization, connected component extraction and rule-based connected component filtering.