NOVEL ALGORITHMS FOR VIDEO TEXT EXTRACTION

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ABSTRACT

The emerging and rapid growing of educational video leads to the problem on managing the video data. Among the solutions, extracting text from video scene proved to be an effective way in searching, indexing and categorizing the video based on its content. Research on the solutions for detecting, localizing and extracting the text in image and video had been carry out over several decades. However, due to constraints such as similar background color, extraction results are not always accurate and the process is relatively slower in video domain. The goal of this research is to propose enhanced and new algorithms to detect, localize, and extract text from the video scene, and finally to produce a binary text image after separated the text and background objects. The research used improved Text Information Extraction System as a framework and it divides into four stages. In the first stage, a new algorithm is proposed to reduce the number of video scene to be analysis by filtering the Intra-coded picture. Next, a simple and fast algorithm to detect the present of text in a video scene is proposed. After that, Canny edge detection algorithm is enhanced by implement multi-gridding and multi-threshold algorithm to localize and enclose the text in the video scene into a minimum surface area. In final stage, a new hybrid algorithm is proposed to separate the text from the background by calculating the total stroke after morphological dilation.

KEYWORD

text detection, text localization, text extraction