**Characterness: An Indicator of Text in the Wild**

**ABSTRACT:**

Text in an image provides vital information for interpreting its contents, and text in a scene can aid a variety of tasks from navigation to obstacle avoidance and odometry. Despite its value, however, detecting general text in images remains a challenging research problem. Motivated by the need to consider the widely varying forms of natural text, we propose a bottom-up approach to the problem, which reflects the characterness of an image region. In this sense, our approach mirrors the move from saliency detection methods to measures of objectness. In order to measure the characterness, we develop three novel cues that are tailored for character detection and a Bayesian method for their integration. Because text is made up of sets of characters, we then design a Markov random field model so as to exploit the inherent dependencies between characters. We experimentally demonstrate the effectiveness of our characterness cues as well as the advantage of Bayesian multicue integration. The proposed text detector outperforms state-of-the-art methods on a few benchmark scene text detection data sets. We also show that our measurement of characterness is superior than state-of-the-art saliency detection models when applied to the same task.

**EXISTING SYSTEM:**

Our basic motivation is the fact that text attracts human attention, even when amongst a cluttered background. This has been shown by a range of authors including Judd et al. and Cerf et al. who verified that humans tend to focus on text in natural scenes. Previous work has also demonstrated that saliency detection models can be used in early stages of scene text detection. In, for example, a saliency map obtained from Itti et al. was used to find regions of interest. Uchida et al. showed that using both SURF and saliency features achieved superior character recognition performance over using SURF features alone. More recently, Shahab et al compared the performance of four different saliency detection models at scene text detection. Meng and Song adopted the saliency framework for scene text detection.

**DISADVANTAGES OF EXISTING SYSTEM:**

* While the aforementioned approaches have demonstrated that saliency detection models facilitate scene text detection, they share a common inherent limitation, which is that they are distracted by other salient objects in the scene.

This approach has been shown to be very useful as a pre-processing step for a wide range of problems including occlusion boundary detection, semantic segmentation, and training object class detectors

**PROPOSED SYSTEM:**

We propose here a similar approach to text detection, in that we seek to develop a method which is capable of identifying individual, bounded units of text, rather than areas with text-like characteristics. The unit in the case of text is the character, and much like the ‘object’, it has a particular set of characteristics, including a closed boundary. In contrast to the objects, however, text is made up of a set of inter-related characters. Therefore, effective text detection should be able to compensate for, and exploit these dependencies between characters. The object detection method is similar to that proposed here in as much as it is based on a Bayesian framework combining a number of visual cues, including one which represents the boundary of the object, and one which measures the degree to which a putative object differs from the background.

**ADVANTAGES OF PROPOSED SYSTEM:**

We are the first to present a saliency detection model which measures the characterness of image regions. This text-specific saliency detection model is less likely to be distracted by other objects which are usually considered as salient in general saliency detection models.

**SYSTEM ARCHITECTURE:**

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**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Pentium IV 2.4 GHz.
* Hard Disk : 40 GB.
* Floppy Drive : 1.44 Mb.
* Monitor : 15 VGA Colour.
* Mouse : Logitech.
* Ram : 512 Mb.

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows XP/7.
* Coding Language : MATLAB
* Tool : MATLAB R 2007B

**REFERENCE:**

Yao Li, Wenjing Jia, Chunhua Shen, and Anton van den Hengel ,“**Characterness: An Indicator of Text in the Wild**”, IEEE TRANSACTIONS ON IMAGE PROCESSING, VOL. 23, NO. 4, APRIL 2014.