

QUALITY ANALYSIS OF FOOD GRAINS AND LIQUIDS

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Abstract: In this present world the digital imaging has an immense impact on many aspects. The quality of food grains that are present in our daily life were becoming impure and the food grains as well as liquids that consume the most important, as people are more concerned about health and the claim for quality of food grains and liquids too is increasing daily. Traditionally this analysis is carried out physically through visual assessment. As the traditional approach is not accurate, time consuming and involves huge human intervention. A solution is provided in this paper through digital image processing techniques.

Keywords — Thresholding, edge detection, Morphological process, delineation process

INTRODUCTION:

Digital image processing is an expanding area dynamically in our daily life such as space medical, authorization, exploration, automation industry, surveillance and many more areas. However, subjective evaluation is usually inconvenient, expensive and time-consuming. At present lot of efforts were made to develop objective image quality metrics that correlate with perceived quality.

The purity of grains and liquids is the most important factor whose inspection is difficult and complicated than the other factors. In the grain handling system, grain type and quality are rapidly measured by visual examination.

Hence, for this the required automation and development systems that are useful to identify grain images, correct it & then being evaluated. The samples examined were from existing standards for rice length, area and aspect ratio features.

The quality metrics of a neutral image is classified in accordance with the availability of a distortion-free image and distorted image.

This paper is focused mainly on full-orientation image quality valuation. The most likely and widely used to full-orientation quality pixels values is the MSE, calculated by average squared intensity between the distorted and orientation image, along with the accompanying quantity of PSNR.

MATERIAL & METHODOLOGIES:

Here MATLAB software was used to write the programming code. The below block diagram describes the process done in this paper.

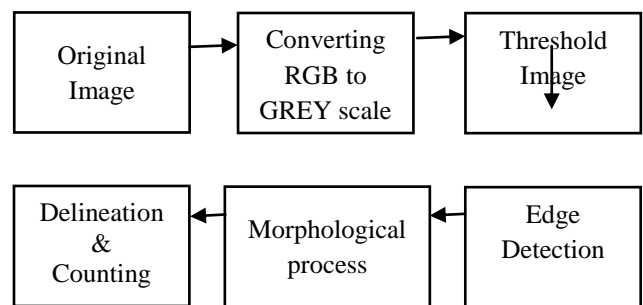


Fig 1: Block Diagram

Image segmentation is the algorithms that determine the region boundaries that explore many altered approaches of image segmentation like automatic Thresholding, advanced methods, edge-detection methods, and morphological-based methods such as the reconstruction, distance transform that is often used for segmentation connected objects.

Edge Detection

In Edge-detection algorithms we will identify the object boundaries in an image. The algorithms that include canny method, Sobel method, Prewitt method, Roberts method and Gaussian methods. The Canny method is the perfect method for detecting the edges in an image accurately as shown in Fig 3.

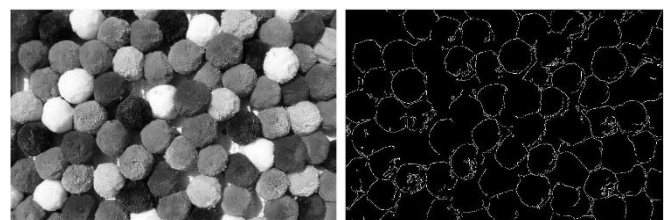


Fig 2: Original image

Fig 3: Edge detection

