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   HYPOTHESES

   RESEARCH METHODOLOGY

   RESULTS & DISCUSSION

   FINDINGS

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JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

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COLOR IMAGE SEGMENTATION USING IMPROVED HISTOGRAM BASED CLUSTERING AND QUADTREE DECOMPOSITION TECHNIQUE

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ABSTRACT

Image segmentation is very important in image analysis and pattern recognition. It is the process of dividing an image into different regions such that each region is homogeneous. There also exists a variety of images: natural scenes, paintings, etc. Despite the large variations of these images, humans have no problem to interpret them. It is a critical and essential component of image analysis system, is one of the most difficult tasks in image processing, which determines the quality of the final result. This research addresses color image segmentation using improved histogram based clustering with quad tree decomposition and explore the possibilities of improving it in terms of speed.

KEYWORDS
Color Images, segmentation, Histogram, Clustering, Quadtree.

INTRODUCTION
To humans, an image is not just a random collection of pixels; it is a meaningful arrangement of regions and objects. The human beings can easily distinguish perceptually different colors, regions and textures. But it is difficult for the machine to reproduce due to the presence of variety of textural patterns and illumination conditions. Human can segment an image almost in fraction of seconds and are having the capability of segmenting an image in different ways according to their imagination. But for a computer generally it will require lot of time to segment an image. In the [1] the authors propose Lorenz Information Measure (LIM) based technique for colour image segmentation. In this research, by adopting this technique, an improved colour image segmentation algorithm is developed for fast color image segmentation. Quad Tree Based Image Decomposition Techniques and Advanced Neural Network Based Clustering techniques are used to device the new algorithm and which leads better improvement in terms of speed. To check the results, one representative segmentations done by human users is taken from the Berkeley dataset. Also another set of results by Angela Chau and Jeff Walters from their paper 'Perceptual Color Image Segmentation' were compared with the proposed results.

CATEGORIES OF SEGMENTATION METHODS
Image segmentation methods can be categorized as follows:

- Histogram thresholding : Assumes that images are composed of regions with different gray (or color) ranges, and separates it into a number of peaks, each corresponding to one region.
- Edge based approaches: Use edge detection operators such as Sobel, Laplacian for example. Resulting regions may not be connected, hence edges need not to be joined.
- Region-based approaches: Based on similarity of regional image data. Some of the more widely used approaches in this category are: Clustering, Region growing, Splitting and Merging.
- Hybrid: Considers both edges and regions.

The Clustering, Region growing, Splitting and Merging and some hybrid models gives better results in terms of quality. But they give very poor performance in terms of speed. So the proposed method addresses the aspects of speed.

REVIEW OF LITERATURE
Clustering is an unsupervised way of data grouping using a given measures of similarity. Clustering algorithms attempt to organize unlabeled feature vectors into clusters or "natural groups" such as samples within a cluster are more similar to each other than to samples belonging to different clusters. Since there is no information given about the underlying data structure or the number of clusters, there is no single solution to clustering, neither is there a single similarity measure to differentiate all clusters, for this reason there is no theory, which describes clustering uniquely.

Pattern classification can be divided into two areas depending on the external knowledge about the input data. If we know the labels of our input data, the pattern recognition problem is considered supervised. Otherwise the problem is called unsupervised. As pattern recognition studied, statistical pattern recognition is one of the chosen method. There are several ways of handling the problem of pattern recognition if the labels are given a priori. Since we know the labels, the problem reduces to finding features of the data set with the known labels, and to build a classifier using these features. The Bayes' rule shows how to calculate the posteriori probability from a priori probability. Assume that we know that a priori probabilities $P(C_i)$ and the conditional densities $P(x \mid C_i)$. When we measure x, we can calculate the posteriori probability $P(C_i \mid x)$ as shown

$$P(C_i \mid x) = \frac{p(x \mid c_i)P(c_i)}{p(x)}$$

where

$$p(x) = \sum_{i=1}^{N} p(x \mid c_i)P(c_i)$$

The clustering problem is not well defined unless the resulting clusters are required to have certain properties. The fundamental problem in clustering is how to choose these properties. Once we have a suitable definition of a cluster, it is possible to evaluate the validity of the resulting clustering using standard statistical validation procedures.

There are two basic approaches to clustering, which are called parametric and nonparametric approaches. If the purpose of unsupervised learning is data description, then we can assume a predefined distribution function for the data set, and calculate the sufficient statistics, which will describe the data set in a compact way. For example, if we assume that the data set comes from a normal distribution *N (M, ∑)*, which is defined as

$$N\,|_x\,(M,\Sigma) = \frac{1}{(2\pi)^{n/2}\,|\Sigma|^{1/2}} \exp\!\left(-\frac{1}{2}(X-M)^T \Sigma^{-1}(X-M)\right)$$

The sufficient statistics are the sample mean *M=E {X}* and the sample covariance matrix $\sum = E\{XX^T\}$, which will describe the distribution perfectly. Unfortunately, if the data set is not distributed according to our choice, then the statistics can be very misleading.

Another approach to clustering is to group the data set into groups of points, which has strong internal similarities. To measure the similarities we use a criterion function and seek the grouping that finds the extreme point of the criterion function.

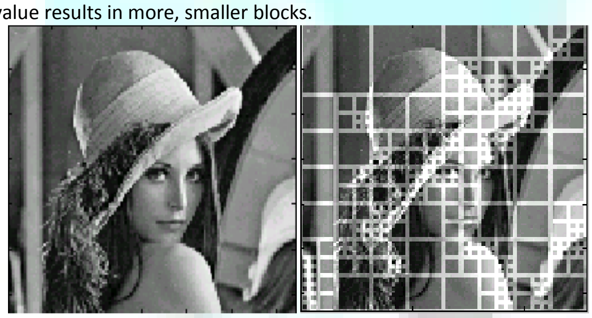
REGION-GROWING METHODS

In the region-growing technique, a region is started with a single pixel. Adjacent pixels are recursively examined and added to the region if they are sufficiently similar to the region. If a pixel is too dissimilar to the current region, it is used to start a new region. One variant of this technique, proposed by Haralick and Shapiro (1985), is based on pixel intensities. The mean and scatter of the region and the intensity of the candidate pixel is used to compute a test statistic. If the test statistic is sufficiently small, the pixel is added to the region, and the region's mean and scatter are recomputed. Otherwise, the pixel is rejected, and is used to form a new region.

RESEARCH METHODOLGY

QUADTREE DECOMPOSITION

Quadtree decomposition is commonly used in variety of image analysis and compression applications. It is an operation that subdivides an image into blocks that contain "similar" pixels. Usually the blocks are square, although sometimes they may be rectangular. The pixels in a block are said to be "similar" if the range of pixel values in the block are not greater than some threshold. A large threshold value results in fewer, larger blocks, and the "Block means" image doesn't look very much like the original. A small threshold value results in more, smaller blocks.



For example, suppose the input image is 128-by-128. Quadtree decomposition starts with a single 128-by-128 block. If the pixels in the block are not similar, Quadtree decomposition subdivides the block into four 64-by-64 blocks. Quadtree decomposition then subdivides the nonsimilar 64-by-64 block into 4 32-by-32 blocks, and so on.

THE PROPOSED ALGORITHM

1. Open the Image which is to be segmented.
2. Do preprocessing
3. Decompose the image into different size of blocks using Quad Tree decomposition technique
4. Prepare Histogram Vector of each and every blocks of original color image using the QT decomposed gray image as a reference image.
5. Make Clusters out of the all the Histogram vectors using the newly trained Neural Network.
6. After that we will have the cluster labels for each pixels in the image.
7. Decide the gray levels of each segment by averaging the pixels corresponding to the class labels in each group.

Display the Segmented image.

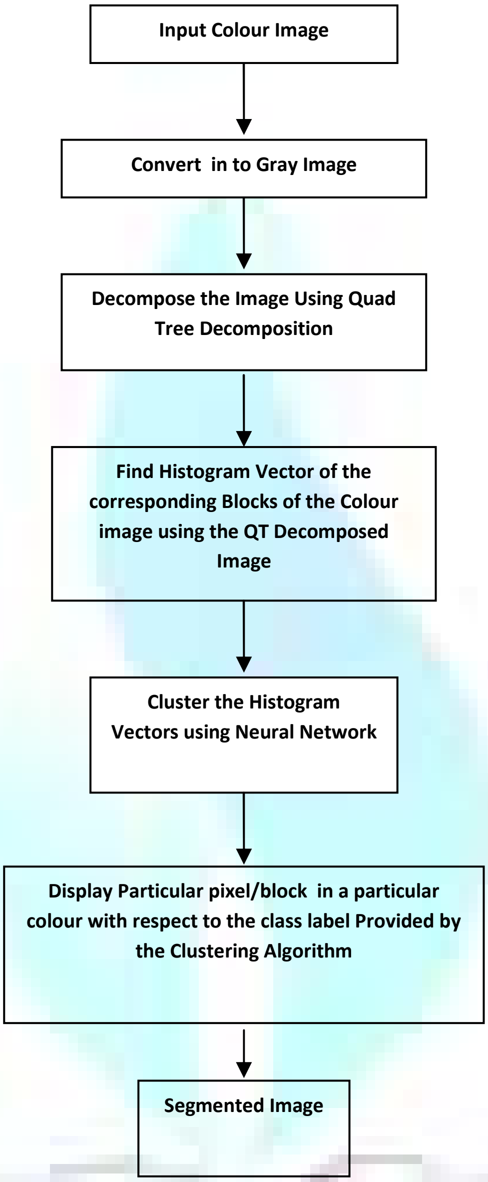
IMPLEMENTATION

The Proposed image segmentation algorithm is proposed to be implemented and evaluated using Matlab 6.5 under Windows XP operating system. MATLAB is a high-level technical computing language and interactive environment for algorithm development, data visualization, data analysis, and numerical computation. As MATLAB, can solve technical computing problems faster than traditional programming languages, such as C, C++, and Fortran, it is taken as the most suitable tool for implementing and evaluating the proposed segmentation algorithm.

RESULTS & DISCUSSION

In this research, by adopting Quad Tree decomposition, an improved color image segmentation algorithm is developed for fast color image segmentation. Quad Tree Based Image Decomposition Techniques and Advanced Neural Network Based Clustering techniques are used to device the new algorithm and which leads better improvement in terms of speed. To check the results, one representative segmentations done by human users is taken from the Berkeley dataset. Also another set of results by Angela Chau and Jeff Walters from their paper 'Perceptual Color Image Segmentation' were compared which has produced promising results for the proposed technique.

FIG.1: PROPOSED FAST SEGMENTATION ALGORITHM



CONCLUSIONS & FUTURE WORK

Image segmentation is very important in image analysis and pattern recognition. It is the process of dividing an image into different regions such that each region is homogeneous. This research addressed color image segmentation and explored the possibilities of improving it in terms of speed. The test images were taken from the Berkeley Segmentation dataset. The proposed technique produced promising results than other methods.

REFERANCES

1. A.K. Jain and R.C. Dubes, (1988) Algorithms for clustering data, Prentice Hall, Englewood Cliffs, N.J..
2. Anil.K.Jain, "Fundamentals of Digital Image Processing", Prentice Hall of India Private Limited, New Delhi 2001.
3. Hu Min Yang Shuangyuan, (2010), "Overview of image mining research" 978-1-4244-6002-1 IEEE Explore, 24-27 Aug. 2010, 1868 – 1870
4. McMurray, T. Pearce, J.A. (2002), Theoretical and experimental comparison of the Lorenz information measure, entropy, and the mean absolute error. IEEE Explore ISBN: 0-8186-6250-6, 2002 24-29.
5. Mirmehdi.M and Petrou.M, (2000), "Segmentation of Colour Textures," IEEE Transactions on Pattern Analysis and Machine Intelligence, 2(2):142--159, February 2000
6. X. Zhang and B.A. Wandell,(1996) "A Spatial Extension for CIELAB for Digital Color Image Reproduction," Proc. Soc. Information Display Symp., 1996.

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