Performance Comparison of LBG, KPE, KFCG and KMCG for Global Codebook Technique

Abstract

Vector quantization is a classical quantization technique from signal processing which allows the modeling of probability density functions by the distribution of prototype vectors. It was originally used for data compression. It works by dividing a large set of points (vectors) into groups having approximately the same number of points closest to them. Each group is
represented by its centroid point, as in clustering algorithms. Vector Quantization is a technique of compressing data based on grouping blocks having similar data. These blocks are called Code Vectors and all the code vectors grouped together is called a Codebook. The key to VQ data compression is a good codebook. In order to reduce bandwidth overhead it is necessary to generate Global Codebook for a particular class of images. Otherwise local codebook has to be transferred every time before the transmission of image. In this paper various global codebook generation algorithms for vector quantization for color images are presented.

Reference

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