

Abstract

Research about Image Annotation and Retrieval now is more developed. Starting from dream about how to organize a group of large scale images without knowing it's content and at early 90's there is an idea to organize images with knowing it's content, it's call Content-Based Image Retrieval (CBIR). One of new method that can use to retrieve image is Supervised Learning of Sematic Classes. In making mathematic models, Supervised Learning standard using Gaussian Mixture Model for mixture model and Expectation Maximaliztion for Maximum Likelihood Estimation.

In this paper, author want to change how to make the mathematic models in Supervised Learning with Generalized Gaussian Mixture Model and Split Merge Expectation Maximaliztion for Maximum Likelihood Estimation.

Based on result, generaly SML method with GGMM-SMEM retrieve images more accurate than SML method with GMM-EM

Keyword : content based image retrieval, image annotation, image retrieval, supervised learning of semantic classes, gaussian mixture model, generalized gaussian mixture model, expectation maximalization, split merge expectation maximalization, maximum likelihood estimation, discrete cosinus transform 2D