Progress Report
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Progress preview

- 用Octave（在linux上運行的仿MatLab軟體）執行htk_on_matlab的ToolBox
- 測試GMM training的程式能否計算正確結果

- train_gmm_htk: 設定為做一個state的hmm
- train_hmm_htk: 用呼叫htk資料夾下的指令（HCompv, HRest…）產生出training data
- kmeans: 產生hmm要用的資料初始值
- GMM結構：
  - gmm.nmix: no. of mixture components
  - gmm.priors: array of prior log probabilities over each state
  - gmm.means: matrix of means
  - gmm.covars: matrix of covariance

training vectors

EM

$c_1\ \mu_1\ \Sigma_1$ EVD $K_1\ D_1$

$c_2\ \mu_2\ \Sigma_2$ EVD $K_2\ D_2$

$c_m\mu_m\Sigma_m$ EVD $K_m D_m$

bit allocation among clusters

b_1 Q_1 bit alloc.

b_2 Q_2 bit alloc.

b_m Q_m bit alloc.

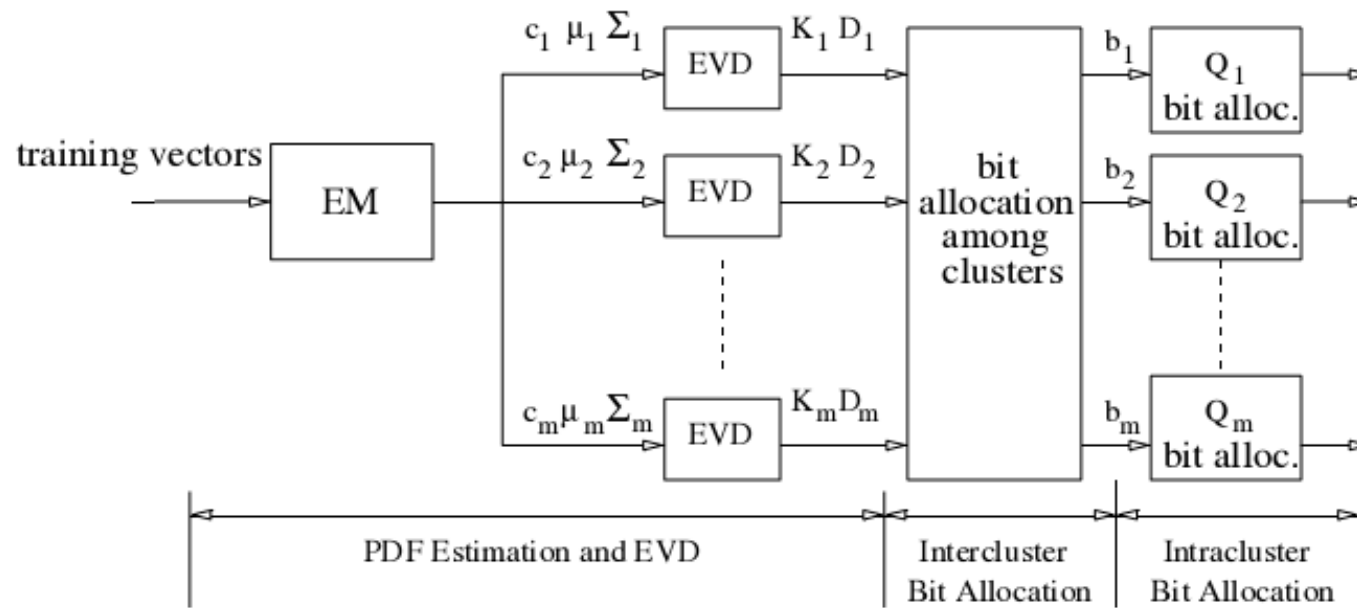PDF Estimation and EVD   Intercluster Bit Allocation   Intracluster Bit Allocation

Fig. 2. PDF estimation and bit allocation from training data.

Data of n vectors

Data of n/k vectors

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Data of n/k vectors

EM-GMM Training

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EM-GMM Training

GMM parameters