Subject: Modelling the PSD using the EM algorithm
Posted by Mark McGillion on Tue, 19 Jan 1999 08:00:00 GMT
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All,

This is a long shot but I thought I would give it a try any how.

I have a power spectral density function (PSD) computed from a short time segment of speech. I am trying to reduce the dimensionality (currently 1000 points) in order to train a Neural Network (ANN) to recognise speech pattern sequences.

By treating the PSD as a 1 dimensional probability density function, my approach is to model the PSD using a mixture of Gaussians and use the parameters of the distributions to train the ANN. The standard method is to use maximum likelihood an implementation of which is the EM algorithm (Dempster et al).

Does anybody know if this has been done before or if there is any documentation/IDL code out there regarding this?

Regards,

Mark