c-ugmix

Introduction

This is "unsupervised Gaussian mixture estimation with no singular behavior" source code written in C++. Use of the source code is governed by a BSD license that can be found in the LICENSE file.

Environment

This program was checked only with GCC 3.3.2 on Vine Linux 3.3.2.
This program uses Newmat library for matrix calculation, so it is required to install Newmat preliminarily.

Newmat: `http://www.robertnz.net/nm_intro.htm`

Example code

```
/*including a header file "unsupervised.h"*/
#include "unsupervised.h"

 ....

/*define model*/
unsupervised model;

/*make data matrix with the data dimension & sample size*/
Matrix obs(Dimention,SAMPLE);
... each data should be set as a column element...

/*parameter estimation(the first argument is upper-limit of the
component number)*/
model.estimate(20, obs);

/*console out of the model parameters*/
model.display();
```

```
/*clean up the memory*/
obs.CleanUp();
model.CleanUp();
```

Reference

M. Figueiredo and A.K.Jain, "Unsupervised learning of finite mixture models", IEEE Transactions on Pattern Analysis and Machine Intelligence, vol. 24, no. 3, pp. 381-396, March 2002.

The MATLAB code is also available in author's HomePage.