**EM method:**

Algorithm for mixture models (like MOG), useful for funding the parameters of the Geussians that describes the data.

The main idea:

* initialize k Gaussian variables (means and variances) randomly.
* Compute the posterior probabilities (0<p(a)<1) for each data point
* Re-calculate the means and the variances for every Gaussian.
* Repeat until converges.

How to find k?

Maximize the likelihood – the probability that the K component model will fit to all the data points. We would like the likelihood to be as large as we can.

Occam’s razor – pick the ‘simplest’ model that fits the data.

L – likelihood – we would like to maximize

P – the number of parameters – we would like to minimize