

Initialisation of Gaussian Parameters:

Number of classes: $K = 2$

Vector of class means: $\mu_1 = 85, \mu_2 = 170$

Vector of class variance: $\delta_1^2 = 255, \delta_2^2 = 255$

Vector of class mixing coefficients: $\pi_1 = 0.500, \pi_2 = 0.500$

E-Step:

The posterior probability or responsibility $\Gamma(U_k)$ is calculate using (13)

M-step: Re-estimation of Gaussians parameters using $\Gamma(U_k)$ in the E-Step.

μ_1^{new}, μ_2^{new} using equation (16)

$\delta_1^{(2) new}, \delta_2^{(2) new}$ using equation (17)

π_1^{new}, π_2^{new} using equation(19)

Update the current parameters with the new parameter values.

No convergence

Evaluate the likelihood in (14) and the convergence of the parameters.

Stop