Computer Vision - Sheet 5

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1

1.1

For each $k \in 1..h$ and $i \in 1..N$, we first calculate an unormalized sum of each gaussian contribution

$$l_{ik} = \lambda_k N(\mathbf{x}_i, \mu_k, \mathbf{I}) = \lambda_k \frac{1}{\sqrt{(2\pi)^n}} e^{-0.5(\mathbf{x}_i - \mu_k)^T (\mathbf{x}_i - \mu_k)} \tag{1}$$

Then, to calculate the normalized posterior probability of $\mathbf{x}_i$ given the gaussian PDFs,

$$r_{ik} = l_{ik} / \sum_{k=1}^{h} l_{ik} \tag{2}$$