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3. Introduction to Mixture Models



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Exercises due Apr 19, 2023 08:59 -03 Completed

Gaussian Mixture Model: Definitions

▶ 0:00 / 0:00

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Video [Download video file](#)**Transcripts** [Download SubRip \(.srt\) file](#) [Download Text \(.txt\) file](#)**Gaussian Mixture Model: Definitions**

1/1 point (graded)

Assume a Gaussian mixture model with K Gaussians such that we know all the means that we also know the mixture weights p_1, \dots, p_K . Let \mathbf{x} be an observation obtained from the mixture model. Let all of the parameters of the Gaussian mixture model be collectively θ .

Which of the following are true? (Choose all that apply.)



We should be able to compute the probability density function (likelihood) $p(\mathbf{x}|\theta)$ given the information that we know.



We should be able to compute the probability that \mathbf{x} belongs to each Gaussian component $j = 1, \dots, K$ given the information that we know.






Video

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Gaussian Mixture Model: Definitions

A **Gaussian Mixture Model (GMM)**, which is a generative model for data, is defined by a set of parameters:

1. K : Number of clusters
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2. A d -dimensional Gaussian distribution for every cluster k



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