2. Recap of Maximum Likelihood Estimation for Multinomial and

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

So far, in clustering we have assumed that the data has no probabilistic generative mod
we have used various iterative algorithms based on similarity measures to come up wit
data points into clusters. In this lecture, we will assume an underlying probabilistic gene
lead us to a natural clustering algorithm called the **EM algorithm** .

While a “hard" clustering algorithm like k-means or k-medoids can only provide a cluste
the EM algorithm, along with the generative model driving its equations, can provide th
(“soft" assignments) that every data point belongs to any cluster.

The EM algorithm will also form the basis for a portion of **Project 4** in which we explore
via Gaussian mixtures.

MLE for Multinomial and Gaussian Models

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MLE under Gaussian Noise I

Submit You have used 2 of 2 attempts

MLE under Gaussian Noise II

0/1 point (graded)

Would the ML estimator of change if the 's are **independent** Gaussians with **possi** but **same zero mean**? Assume that are **known** constants.

- Yes
- No

Submit You have used 1 of 1 attempt

Previous Next

MLE under Gaussian Noise III

It looks innocent, but requires some computation...