2. Limitations of the K Means Algorithm

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

Limitations of the K Means Algorithm

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Limitations of the K-Means Algorithm I

0/1 point (graded)

Remember that the K-Means Algorithm is given as below:

1. Randomly select $z_1, \ldots, z_K$
2. Iterate
    1. Given $z_1, \ldots, z_K$, assign each data point $x^{(i)}$ to the closest z_j, so that

$$\text{Cost}\,(z_1, \ldots z_K) = \sum_{i=1}^{n} \min_{j=1,\ldots,k} \left\| x^{(i)} - z_j \right\|^2$$

The algorithm may output different and depending on tr

Line 2.2 of the algorithm(Given find the best representatives cost-minimizing representatives .

Submit You have used 3 of 3 attempts

Limitations of the K-Means Algorithm II

2/2 points (graded)

Suppose we have a 1D dataset drawn from 2 different Gaussian distribution . The dataset contains data points from each of the two distributions for so

Define **optimal clustering** to be the assignment of each point to the more likely Gaussi knowledge of the generating distribution.

Consider the case where , would you expect a 2-means algorithm to approxim clustering?

- Yes
- No

Previous Next

Limitations of the K-Means Algorithm I [STAFF]

In the solution of the first problem, in the second formula for z, x is incorrectly written as index.