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Machine Learning with Python-From Linear Models to Deep Learning

Progress Discussion Dates Resources Course

A Course / Unit 4. Unsupervised Learning (2 weeks) / Lecture 15. Generative Mo



4. Likelihood Function

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

Likelihood function



10v

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Likelihood of the First Model

1/1 point (graded)

For simplicity, assume that our vocabulary $oldsymbol{W}$ consists of just two symbols $oldsymbol{0}$ and $oldsymbol{1}$, i.e.

We want to estimate a multinomial model to generate a document D=0101".

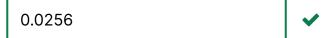
For this task, we consider two multinomial models M_1 and M_2 with parameters, $heta^{(1)}$ are First consider a multinomial model M_1 with parameters $heta^{(1)}$ given as follows:

$$heta_0^{(1)}=rac{1}{2}, heta_1^{(1)}=rac{1}{2}$$

Let the probability of model M_1 generating the document D be denoted by $P\left(D| heta^{(1)}
ight)$

The document " remains the same as that from the previous problem.

Enter the value of given that takes the values above. Enter below your expression or round it off to four decimal places.



Submit

You have used 1 of 3 attempts

The Better Model

1/1 point (graded)

Based on your answers for the above two questions, which model between and generate the document ?





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