





MITx 6.86x

Machine Learning with Python-From Linear Models to Deep Learning[Course](#)[Progress](#)[Dates](#)[Discussion](#)[Resources](#)[Course](#) / [Unit 4. Unsupervised Learning \(2 weeks\)](#) / [Lecture 15. Generative Models](#)[< Previous](#)

4. Likelihood Function

Bookmark this page

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

Likelihood function**Video** [Download video file](#)**Transcripts** [Download SubRip \(.srt\) file](#) [Download Text \(.txt\) file](#)**Likelihood of the First Model**

1/1 point (graded)

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

We want to estimate a multinomial model to generate a document $D = \text{"0101"}$.

For this task, we consider two multinomial models \mathcal{M}_1 and \mathcal{M}_2 with parameters, $\theta^{(1)}$ and $\theta^{(2)}$. First consider a multinomial model \mathcal{M}_1 with parameters $\theta^{(1)}$ given as follows:

$$\theta_0^{(1)} = \frac{1}{2}, \theta_1^{(1)} = \frac{1}{2}$$

Let the probability of model \mathcal{M}_1 generating the document D be denoted by $P(D|\theta^{(1)})$.

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.



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 ?



< Previous

Next >



edX

[About](#)

[Affiliates](#)

[edX for Business](#)

[Open edX](#)

[Careers](#)

[News](#)

Legal

[Terms of Service & Honor Code](#)

[Privacy Policy](#)

[Accessibility Policy](#)

[Trademark Policy](#)



© 2023 edX LLC. All rights reserved.

深圳市恒宇博科技有限公司 [粤ICP备17044299号-2](#)