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Machine Learning with Python-From Linear Models to Deep Learning

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2. Hinge Loss

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Project due Mar 1, 2023 08:59 -03 Completed

In this project you will be implementing linear classifiers beginning with the Perceptron by writing your loss function, a hinge-loss function. For this function you are given the pmodel θ and θ_0 . Additionally, you are given a feature matrix in which the rows are feature columns are individual features, and a vector of labels representing the actual sentimer feature vector.

Hinge Loss on One Data Sample

1.0/1 point (graded)

First, implement the basic hinge loss calculation on a single data-point. Instead of the eare given one row, representing the feature vector of a single data sample, and its labe the ground truth sentiment of the data sample.

Reminder: You can implement this function locally first, and run python test.py in your sentiment_analysis directory to validate basic functionality before checking against

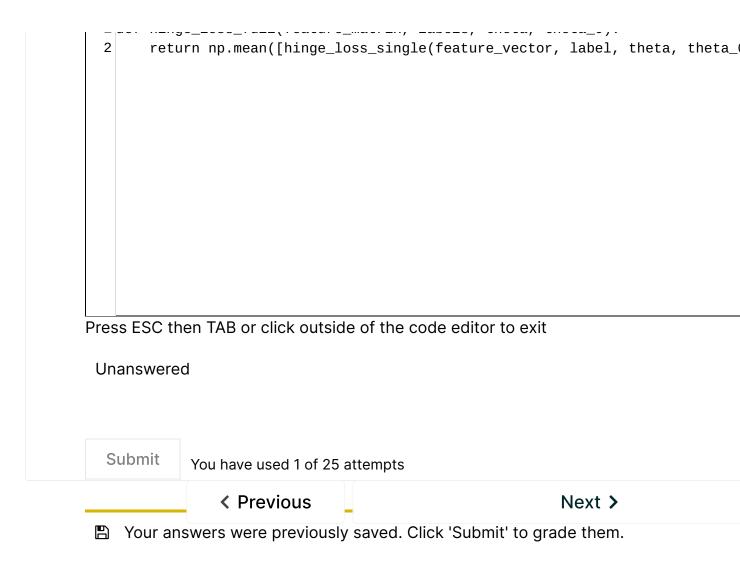
Available Functions: You have access to the NumPy python library as np; No need to in

```
1 def hinge_loss_single(feature_vector, label, theta, theta_0):
 2
 3
          Finds the hinge loss on a single data point given specific classif.
 4
           parameters.
 5
 6
          Args:
 7
                   `feature_vector` - numpy array describing the given data p
 8
                   `label` - float, the correct classification of the data
 9
                           point.
10
                   `theta` - numpy array describing the linear classifier.
                   `theta_0` - float representing the offset parameter.
11
12
          Returns:
13
                   the hinge loss, as a float, associated with the given data
14
                   parameters.
15
```

Press ESC then TAB or click outside of the code editor to exit

Correct

Test results





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