Image Classification [Code Challenge MCQ] (Version : 1)

TEST

Correct Answer

Answered in 9.92 Minutes

Question 1/10

After extracting a subset of the MNIST dataset, what are the shapes of X_train and X_test respectively?

- [ ] (5000, 28, 28), (1000, 28, 28)
- [x] (5000, 784), (1000, 784)
- [ ] (28, 28, 5000), (28, 28, 1000)
- [ ] (5000,), (1000,)

Question 2/10

After extracting the data in Question 1, print out the value of X_train[1, 349]. What is this value?

- [ ] 0.7764706
- [ ] 0.84313726
- [ ] 0.0
- [x] 0.10980392

Question 3/10

After extracting the data in Question 1, print out the label in y_test[50]. What is this label?

- [x] 2
- [ ] 1
- [x] 6
- [ ] 8

Question 4/10

What is the purpose of dividing the image pixel values by 255 in the get_data function?

- [ ] To convert the images into grayscale
- [ ] To reduce the computational complexity without having to normalise the data
- [ ] To increase the image size
- [x] To normalise the pixel values between 0 and 1

Question 5/10

What is the accuracy calculated in Question 3?

- [ ] 0.09
- [ ] 0.84

- [ ] 0.8
- [x] 0.9

Question 6/10

What is the precision calculated for label 6 in Question 3?

- [ ] 0.98
- [x] 0.93
- [x] 0.88
- [ ] 0.86

Question 7/10

What is the f1-score for label 0 calculated in Question 3?

- [ ] 0.84
- [x] 0.96
- [ ] 0.98
- [ ] 0.92

Question 8/10

Based on the classification report generated, how many observations in the test set were labeled as '7'?

- [ ] 0.89
- [ ] 1000
- [ ] 85
- [x] 99

Question 9/10

What is the predicted label for image index 60?

- [ ] 3
- [ ] 9
- [x] 5
- [ ] 7

Question 10/10

Which of the following is not a possible outcome of increasing the number of training images used to train the random forest model from 5,000 to 20,000?

- [ ] The model's accuracy on the test set could potentially improve because of exposure to a wider set of examples.
- [ ] A slightly more complex model may be needed to capture the details and variations in the larger dataset.

- [x] A decrease in the amount of time required to train the model due to more efficient learning.
- [ ] A potential increase in the model's training time because of the larger amount of data to be processed.