EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 22 DISCUSSIO..

Actual exam question from Google's Professional Machine Learning Engineer
Question #: 22
Topic #: 1
[All Professional Machine Learning Engineer Questions]

You trained a text classification model. You have the following SignatureDefs:

```
signature_def['serving_default']:
  The given SavedModel SignatureDef contains the following input(s):
    inputs['text'] tensor_info:
        dtype: DT_STRING
        shape: (-1, 2)
        name: serving_default_text: 0
  The given SavedModel SignatureDef contains the following output(s):
    outputs ['Softmax'] tensor_info:
        dtype: DT_FLOAT
        shape: (-1, 2)
        name: StatefulPartitionedCall:0
  Method name is: tensorflow/serving/predict
```

You started a TensorFlow-serving component server and tried to send an HTTP request to get a prediction using: headers = {"content-type": "application/json"} json_response = requests.post('http: //localhost:8501/v1/models/text_model:predict', data=data, headers=headers)
What is the correct way to write the predict request?

A. data = json.dumps({ɔ€signature_nameɔ :€ɔ€seving_defaultɔ ,€ɔ€instancesɔ€ [['ab', 'bc', 'cd']]})

B. data = json.dumps({ɔ€signature_nameɔ :€ɔ€serving_defaultɔ ,€ɔ€instancesɔ€ [['a', 'b', 'c', 'd', 'e', 'f']]})

C. data = json.dumps({ɔ€signature_nameɔ :€ɔ€serving_defaultɔ ,€ɔ€instancesɔ€ [['a', 'b', 'c'], ['d', 'e', 'f']]})

D. data = json.dumps({ɹ€signature_nameɹ :€ɹ€serving_defaultɹ ,€ɹ€instancesɹ€ [['a', 'b'], ['c', 'd'], ['e', 'f']]})

Show Suggested Answer

by [deleted] at *June 2, 2021, 10:38 p.m.*

Comments

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[Removed] Highly Voted 3 years, 4 months ago

Options:

A. data = json.dumps({“signature_name”: “seving_default”, “instances” [[‘ab’, ‘bc’, ‘cd’]]})
B. data = json.dumps({“signature_name”: “serving_default”, “instances” [[‘a’, ‘b’, ‘c’, ‘d’, ‘e’, ‘f’]]})
C. data = json.dumps({“signature_name”: “serving_default”, “instances” [[‘a’, ‘b’, ‘c’], [‘d’, ‘e’, ‘f’]]})
D. data = json.dumps({“signature_name”: “serving_default”, “instances” [[‘a’, ‘b’], [‘c’, ‘d’], [‘e’, ‘f’]]})

upvoted 27 times

maartenalexander Highly Voted 3 years, 4 months ago

Most likely D. A negative number in the shape enables auto expand (https://stackoverflow.com/questions/37956197/what-is-the-negative-index-in-shape-arrays-used-for-tensorflow).

Then the first number -1 out of the shape (-1, 2) speaks the number of 1 dimensional arrays within the tensor (and it can autoexpand) while the second numer (2) sets the number of elements in the inner array at 2. Hence D.

upvoted 21 times

jkkim_jt Most Recent 2 days, 22 hours ago

Selected Answer: D

the shape (-1, 2) indicates that the data can have any number of rows (denoted by -1), but must have exactly 2 columns. In machine learning, especially in frameworks like TensorFlow or Keras, the -1 acts as a placeholder for dynamic batch sizes, meaning the model can process inputs with any number of samples (rows), but each sample must have exactly 2 features (columns).

upvoted 1 times

PhilipKoku 4 months, 2 weeks ago

Selected Answer: D

D) Any rows, 2 columns.

upvoted 1 times

M25 1 year, 5 months ago

Selected Answer: D

Went with D

upvoted 2 times

wish0035 1 year, 10 months ago

Selected Answer: D

ans: D

upvoted 1 times

EFIGO 1 year, 11 months ago

Selected Answer: D

Having "shape=[-1,2]", the input can have as many rows as we want, but each row needs to be of 2 elements. The only option satisfying this requirement is D.

upvoted 1 times

GCP72 2 years, 2 months ago

Selected Answer: D

Correct answer is "D"

upvoted 1 times

Mohamed_Mossad 2 years, 4 months ago

Selected Answer: D

will vote for D , as the data shape in instances matches the shape in signature def

upvoted 1 times

pml2021 2 years, 7 months ago

Selected Answer: D

shape is (-1,2) indicating any no of rows, 2 columns only.

upvoted 2 times

mousseUwU 3 years ago

D is correct if shape(-1,2) means 2 columns for each row

upvoted 3 times

mousseUwU 3 years ago

Link to explanation: https://stackoverflow.com/questions/37956197/what-is-the-negative-index-in-shape-arrays-used-for-tensorflow

upvoted 1 times

Danny2021 3 years, 1 month ago

D: (-1, 2) represents a vector with any number of rows but only 2 columns.

upvoted 5 times

inder0007 3 years, 4 months ago

Correct answer is D, the shapes otherwise don't matter

upvoted 4 times

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