

merge_split.ipynb x

05-TensorMergeSplit > merge_split.ipynb > Krishna Manoj PVR

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Krishna Manoj PVR

22BD1A051F

```
import tensorflow as tf
```

```
[43] ✓ 0.0s Python
```

```
t1 = tf.constant([
    [[1, 2, 3, 4], [5, 6, 7, 8], [9, 10, 11, 12]],
    [[13, 14, 15, 16], [17, 18, 19, 20], [21, 22, 23, 24]]
])

t2 = tf.constant([
    [[25, 26, 27, 28], [29, 30, 31, 32], [33, 34, 35, 36]],
    [[37, 38, 39, 40], [41, 42, 43, 44], [45, 46, 47, 48]]
])
```

```
[44] ✓ 0.0s Python
```

```
#merging
c1 = tf.concat([t1,t2],axis=0)
c1
```

```
[45] ✓ 0.0s Python
```

```
>>> <tf.Tensor: shape=(4, 3, 4), dtype=int32, numpy=
array([[[ 1,  2,  3,  4],
         [ 5,  6,  7,  8],
         [ 9, 10, 11, 12],
         [13, 14, 15, 16],
         [17, 18, 19, 20],
         [21, 22, 23, 24],
         [25, 26, 27, 28],
         [29, 30, 31, 32],
         [33, 34, 35, 36],
         [37, 38, 39, 40],
         [41, 42, 43, 44],
         [45, 46, 47, 48]]]])>
```

main* Bootstrap IntelliSense 0.1

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```
[44] ✓ 0.0s
```

```
#merging
c1 = tf.concat([t1,t2],axis=0)
c1
```

```
[45] ✓ 0.0s Python
```

```
>>> <tf.Tensor: shape=(4, 3, 4), dtype=int32, numpy=
array([[[ 1,  2,  3,  4],
         [ 5,  6,  7,  8],
         [ 9, 10, 11, 12],
         [13, 14, 15, 16],
         [17, 18, 19, 20],
         [21, 22, 23, 24],
         [25, 26, 27, 28],
         [29, 30, 31, 32],
         [33, 34, 35, 36],
         [37, 38, 39, 40],
         [41, 42, 43, 44],
         [45, 46, 47, 48]]]])>
```

```
c2 = tf.concat([t1,t2],axis=1)
c2
```

```
[46] ✓ 0.0s Python
```

```
>>> <tf.Tensor: shape=(2, 6, 4), dtype=int32, numpy=
array([[[ 1,  2,  3,  4],
         [ 5,  6,  7,  8],
         [ 9, 10, 11, 12],
         [13, 14, 15, 16],
         [17, 18, 19, 20],
         [21, 22, 23, 24],
         [25, 26, 27, 28],
         [29, 30, 31, 32],
         [33, 34, 35, 36],
         [37, 38, 39, 40],
         [41, 42, 43, 44],
         [45, 46, 47, 48]]]])>
```

main* Bootstrap IntelliSense 0.1

Ln 2, Col 3 Spaces: 4 CRLF Cell 1 of 9 Go Live Start Tree 12:56 PM 10-03-2025

```
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c2 = tf.concat([t1,t2],axis=1)
c2
[46] ✓ 0.0s Python
...
<tf.Tensor: shape=(2, 6, 4), dtype=int32, numpy=
array([[[ 1,  2,  3,  4],
        [ 5,  6,  7,  8],
        [ 9, 10, 11, 12],
        [25, 26, 27, 28],
        [29, 30, 31, 32],
        [33, 34, 35, 36]],
       [[13, 14, 15, 16],
        [17, 18, 19, 20],
        [21, 22, 23, 24],
        [37, 38, 39, 40],
        [41, 42, 43, 44],
        [45, 46, 47, 48]])])>

c3 = tf.concat([t1,t2],axis=2)
c3
[47] ✓ 0.0s Python
...
<tf.Tensor: shape=(2, 3, 8), dtype=int32, numpy=
array([[[ 1,  2,  3,  4, 25, 26, 27, 28],
        [ 5,  6,  7,  8, 29, 30, 31, 32],
        [ 9, 10, 11, 12, 33, 34, 35, 36]],
       [[13, 14, 15, 16, 37, 38, 39, 40],
        [17, 18, 19, 20, 41, 42, 43, 44],
        [21, 22, 23, 24, 45, 46, 47, 48]])])>
```

```
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a,b = tf.split(c1,num_or_size_splits=2,axis = 0)
a,b
[48] ✓ 0.0s Python
...
(<tf.Tensor: shape=(2, 3, 4), dtype=int32, numpy=
array([[[ 1,  2,  3,  4],
        [ 5,  6,  7,  8],
        [ 9, 10, 11, 12]],
       [[13, 14, 15, 16],
        [17, 18, 19, 20],
        [21, 22, 23, 24]])]),
<tf.Tensor: shape=(2, 3, 4), dtype=int32, numpy=
array([[[25, 26, 27, 28],
        [29, 30, 31, 32],
        [33, 34, 35, 36]],
       [[37, 38, 39, 40],
        [41, 42, 43, 44],
        [45, 46, 47, 48]])])>)

a,b = tf.split(c1,num_or_size_splits=2,axis = 0) a,b

#non-uniform split
n1,n2,n3 = tf.split(c3,num_or_size_splits=[2,1,5],axis=2)
n1,n2,n3
[49] ✓ 0.0s Python
```

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a,b = tf.split(c1,num_or_size_splits=2,axis = 0) a,b

```
#non-uniform split
n1,n2,n3 = tf.split(c3,num_or_size_splits=[2,1,5],axis=2)
n1,n2,n3
```

[49] ✓ 0.0sPython

```
...
<tf.Tensor: shape=(2, 3, 2), dtype=int32, numpy=
array([[[ 1,  2],
        [ 5,  6],
        [ 9, 10]],
       [[13, 14],
        [17, 18],
        [21, 22]]]),>
<tf.Tensor: shape=(2, 3, 1), dtype=int32, numpy=
array([[[ 3],
        [ 7],
        [11]],
       [[15],
        [19],
        [23]]]),>
<tf.Tensor: shape=(2, 3, 5), dtype=int32, numpy=
array([[[ 4, 25, 26, 27, 28],
        [ 8, 29, 30, 31, 32],
        [12, 33, 34, 35, 36]],
       [[16, 37, 38, 39, 40],
        [20, 41, 42, 43, 44],
        [24, 45, 46, 47, 48]]]),>
```

main* Bootstrap IntelliSense 0 Δ 1Ln 3, Col 9Spaces: 4CRLFCell 1 of 9Go LiveStart Tree12:56 PM10-03-2025