
```

import tensorflow as tf
from tensorflow import keras
import numpy as np

fashion_mnist=keras.datasets.fashion_mnist
(train_images, train_labels), (test_images, test_labels)=fashion_mnist.load_data()
train_images=train_images/255.0

test_images=test_images/255.0
train_images[0].shape

(28, 28)

train_images=train_images.reshape(len(train_images),28,28,1)
test_images=test_images.reshape(len(test_images),28,28,1)
def build_model(hp):
    model=keras.Sequential([
        keras.layers.Conv2D(
            filters=hp.Int('conv_1_filter', min_value=32, max_value=128, step=16), kernel_size=hp.Choice('conv_1_kernel', values=[3,5]),
            activation='relu',
            input_shape=(28,28,1)
        ), keras.layers.Conv2D(
            filters=hp.Int('conv_2_filter', min_value=32, max_value=64, step=16),
            kernel_size=hp.Choice('conv_2_kernel', values=[3,5]),
            activation='relu'
        ), keras.layers.Flatten(),
        keras.layers.Dense(
            units=hp.Int('dense_1_units', min_value=32, max_value=128, step=16),
            activation='relu'
        ), keras.layers.Dense(10, activation='softmax') #output layer
    ])
    model.compile(optimizer=keras.optimizers.Adam(hp.Choice('learning_rate', values=[1e-2, 1e-3])),
        loss='sparse_categorical_crossentropy',
        metrics=['accuracy'])
    return model

from kerastuner import Random Search
from kerastuner.engine.hyperparameters import
tuner_search=RandomSearch(build_model,
File

```

+ Code

[]

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HyperParameters

```
objective= val_accuracy,
```

```
max_trials=5, directory='output',project_name="Mnist Fashion")
```

```
INFO: tensorflow: Reloading Oracle from existing project output/Mnist Fashion/oracle.json
```

```
tuner_search.search(train_images,train_labels, epochs=3, validation_split=0.1)
```

```
INFO:tensorflow:Oracle triggered exit
```

```
model=tuner_search.get_best_models(num_models=1)[0]
```

```
model.summary()
```