KerasImageClassification

October 2, 2020

0.1 Keras Image Classification Tutorial

[0]:
```
import tensorflow as tf
fashion_mnist = tf.keras.datasets.fashion_mnist

(x_train, y_train),(x_test, y_test) = fashion_mnist.load_data()
x_train, x_test = x_train / 255.0, x_test / 255.0
```

[0]:
```
import os, datetime
def create_model():
  return tf.keras.models.Sequential([
    tf.keras.layers.Flatten(input_shape=(28, 28)),
    tf.keras.layers.Dense(512, activation='relu'),
    tf.keras.layers.Dropout(0.2),
    tf.keras.layers.Dense(10, activation='softmax')
  ])


def train_model():
  model = create_model()
  model.compile(optimizer='adam',
                loss='sparse_categorical_crossentropy',
                metrics=['accuracy'])

  logdir = os.path.join("logs", datetime.datetime.now().
 ↪strftime("%Y%m%d-%H%M%S"))
  tensorboard_callback = tf.keras.callbacks.TensorBoard(logdir,␣
 ↪histogram_freq=1)

  model.fit(x=x_train,
            y=y_train,
            epochs=5,
            validation_data=(x_test, y_test),
            callbacks=[tensorboard_callback])

train_model()
```

[0]:
```
%load_ext tensorboard
```

[0]:
```
%tensorboard --logdir logs
```