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from tensorflow.keras.datasets import fashion_mnist
import numpy as np
(train_x, train_y), (test_x, test_y) = fashion_mnist.load_data()
from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Dense, Flatten, MaxPooling2D, Conv2D
model = Sequential()
model.add(Conv2D(filters=64, kernel_size=(3,3), activation='relu', input_shape=(28, 28, 1)))

# Adding maxpooling layer to get max value within a matrix
model.add(MaxPooling2D(pool_size=(2,2)))

model.add(Flatten())
model.add(Dense(128, activation = "relu"))
model.add(Dense(10, activation = "softmax"))
model.summary()

model.compile(optimizer = 'adam', loss = 'sparse_categorical_crossentropy', metrics = ['accuracy'])
model.fit(train_x.astype(np.float32), train_y.astype(np.float32), epochs = 5, validation_split = 0.2)

labels = ['t_shirt', 'trouser', 'pullover', 'dress', 'coat', 'sandal', 'shirt', 'sneaker', 'bag', 'ankle_boots']
predictions = model.predict(test_x[:1])
import numpy as np
label = labels[np.argmax(predictions)]
import matplotlib.pyplot as plt
print(label)
plt.imshow(test_x[:1][0])
plt.show
```