

L10-18-11-14-P2-SimpleKeras

November 15, 2018

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In [1]: import pandas as pd
import numpy as np
from keras.models import Sequential
from keras.layers import Dense

# fix random seed for reproducibility
np.random.seed(7)
```

Using TensorFlow backend.

```
In [2]: # Data details
# https://raw.githubusercontent.com/jbrownlee/Datasets/master/pima-indians-diabetes.names
names=['#pregnant','glucose',
        'bp','thick','insulin',
        'bmi','d_pedegree',
        'age','diabetes']
df=pd.read_csv('https://raw.githubusercontent.com/jbrownlee/Datasets/master/'
               + 'pima-indians-diabetes.data.csv',
               names=names)
df.head()
```

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In [3]: X=df.values[:,0:8]
y=df.values[:,8]
```

```
In [4]: # create model
model = Sequential()
model.add(Dense(12, input_dim=8, activation='relu'))
model.add(Dense(8, activation='relu'))
model.add(Dense(1, activation='sigmoid'))
```

```
In [ ]: # Compile model
model.compile(loss='binary_crossentropy', optimizer='adam', metrics=['accuracy'])
# Fit the model
model.fit(X, y, epochs=150, batch_size=10)
```

Epoch 1/150

768/768 [=====] - 1s 1ms/step - loss: 3.6821 - acc: 0.5964

Epoch 2/150

410/768 [=====>...] - ETA: 0s - loss: 0.9871 - acc: 0.5927

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In [ ]: # evaluate the model
        scores = model.evaluate(X, y)
        print("\ns: %.2f%%" % (model.metrics_names[1], scores[1]*100))
```