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▾ Linear regression by using Deep Neural network:

Implement Boston housing price predictionproblem by Linear regression using Deep Neural network. Use Boston House price prediction dataset

```python
import pandas as pd
from sklearn import datasets
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.linear_model import LinearRegression
```

```python
df=pd.read_csv("/content/Boston_Housing.csv")
```

```python
df.rename(columns={'MEDV':'price'}, inplace=True)
```

```python
df
```

```python
df.info()
```

```python
df.isnull().sum()
```

```python
df.describe()
```

```python
df.shape
```

```python
fig=plt.figure(figsize=(15,8))
df.boxplot()
```

```python
sns.boxplot(df["RM"])
```

```python
plt.hist(df["RM"])
```

```python
#fig=plt.figure(figsize=(12,8))
sns.scatterplot(x=df["LSTAT"], y=df["price"])
```

```python
sns.scatterplot(x=df["RM"], y=df["price"])
```

```python
fig=plt.figure(figsize=(12,8))
sns.heatmap(df.corr(),annot=True)
```

```python
pip install keras_tuner
```

```python
import tensorflow.keras as tk
```

```python
model=tk.Sequential()
```

```python
model.add(tk.layers.Input(shape=(14,)))
```

```python
model.add(tk.layers.Dense(6,activation="relu",kernel_initializer="he_uniform"))
```

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```

```python
model.compile(optimizer="adam", loss="mean_absolute_error")
```

```python
model.summary()
```

```python
df.head()
```

```
x=df.iloc[:,:-1]
x
```

```
y=df["price"]
y
```

```
from sklearn.model_selection import train_test_split
xtrain,xtest,ytrain,ytest = train_test_split(x,y,test_size=0.2,random_state=10)
```

```
import time
```

```
start = time.time()
obj=model.fit(x=xtrain,y=ytrain,epochs=50,batch_size=64,validation_data=(xtest,ytest))
```

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