

# Simple\_LinearRegression

March 27, 2021

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[21]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

```
[22]: df= pd.read_csv('Salary_Data.csv')
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[23]: df.head()
```

```
[23]:   YearsExperience  Salary
0              1.1  39343.0
1              1.3  46205.0
2              1.5  37731.0
3              2.0  43525.0
4              2.2  39891.0
```

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[24]: df.shape
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[24]: (30, 2)
```

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[25]: X=df.iloc[:, :-1].values
y=df.iloc[:, 1].values
```

```
[26]: #Splitting the Data set into Training set and Test set
from sklearn.model_selection import train_test_split
X_train,X_test,y_train,y_test = train_test_split(X,y,test_size =1/
↪3,random_state= 0)
```

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[27]: #Feature scaling
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[30]: """from sklearn.preprocessing import StandardScaler
sc_X =StandardScaler()
X_train =sc_X.fit_transform(X_train)
X_test =sc_X.transform(X_test)
sc_y = StandardScaler()
y_train =sc_y.fit_transform(y_train)"""
```

```
[30]: 'from sklearn.preprocessing import StandardScaler\nsc_X
=StandardScaler()\nX_train =sc_X.fit_transform(X_train)\nX_test
```

```
=sc_X.transform(X_test)\nsc_y = StandardScaler()\ny_train\n=sc_y.fit_transform(y_train)'
```

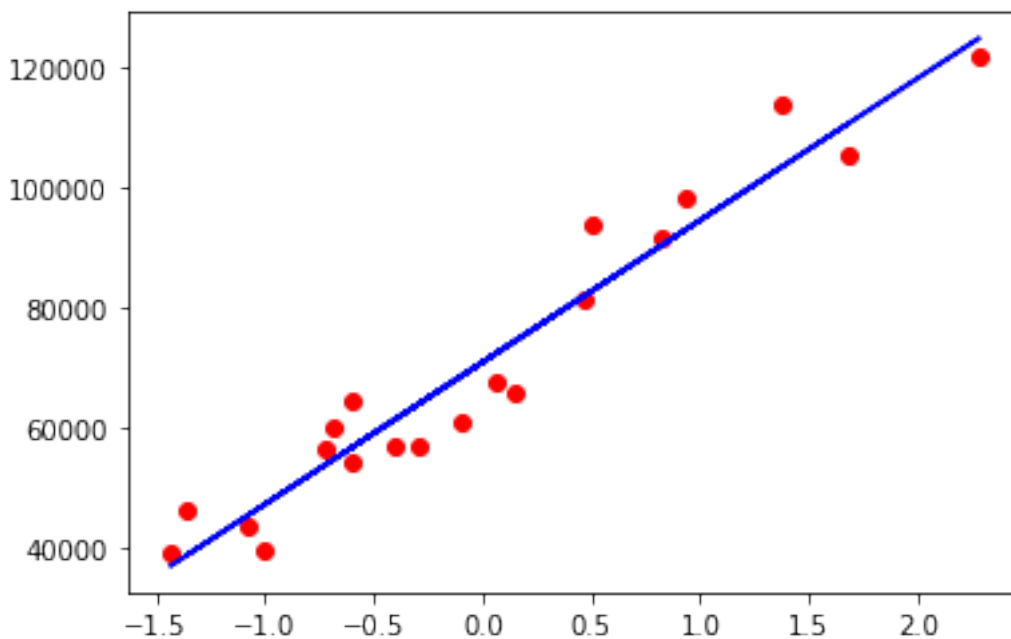
```
[32]: #Fitting simple linear Regression to the training set
from sklearn.linear_model import LinearRegression
regressor = LinearRegression()
regressor.fit(X_train,y_train)
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[32]: LinearRegression(copy_X=True, fit_intercept=True, n_jobs=None, normalize=False)
```

```
[33]: #Predicting the Test set results
y_predict= regressor.predict(X_test)
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[35]: #Visualizing the train set results
plt.scatter(X_train,y_train,color ='red')
plt.plot(X_train,regressor.predict(X_train),color='blue')
```

```
[35]: [<matplotlib.lines.Line2D at 0x1fd711a7a08>]
```



```
[36]: #Visualizing the test set results
plt.scatter(X_test,y_test,color ='red')
plt.plot(X_train,regressor.predict(X_train),color='blue')
plt.title('Salary v Experiance (Test set)')
plt.xlabel('years of Experiance')
plt.ylabel('Salary')
plt.show()
```



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