

# simple-linear-regression-1

December 17, 2023

**0.1 This is a simple project of salary prediction with years of experience using simple linear regression**

**0.1.1 Importing necessary libraries**

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

**0.1.2 Reading Data**

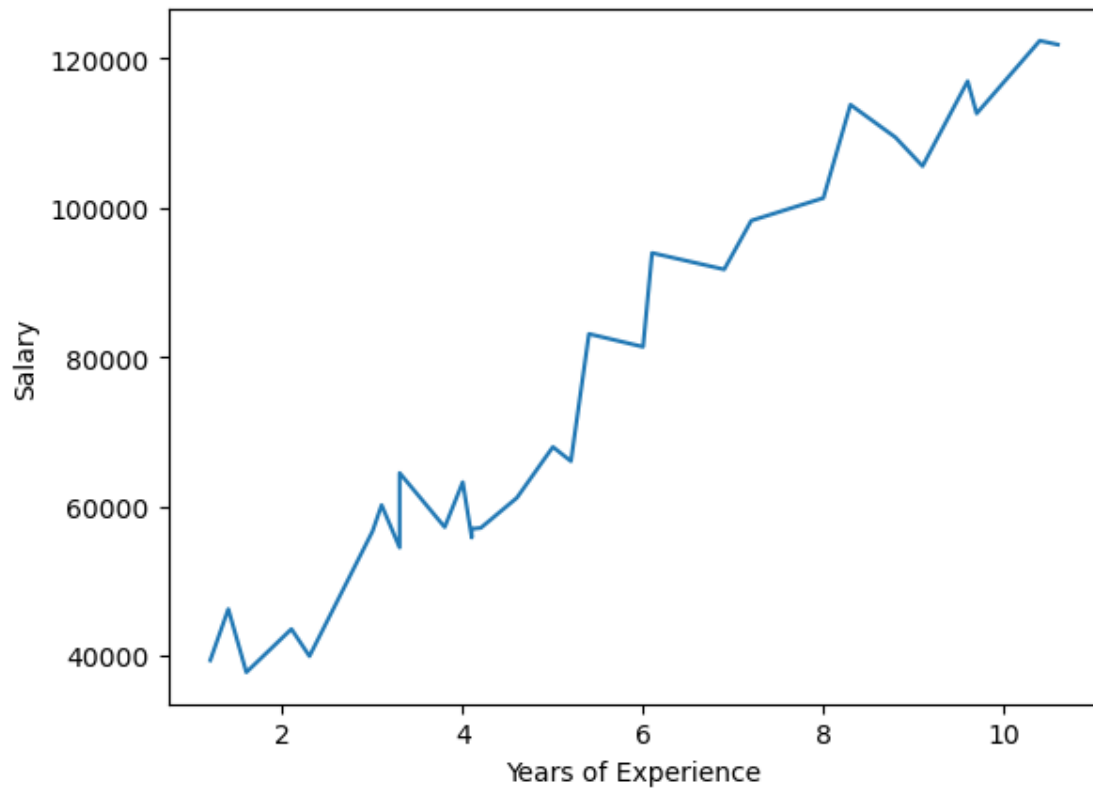
```
[2]: df=pd.read_csv("Salary.csv")
```

```
[4]: df.head(5)
```

```
[4]: Unnamed: 0  YearsExperience  Salary
0           0           1.2  39344.0
1           1           1.4  46206.0
2           2           1.6  37732.0
3           3           2.1  43526.0
4           4           2.3  39892.0
```

**0.1.3 Plotting**

```
[6]: plt.plot(df["YearsExperience"],df["Salary"])
plt.xlabel("Years of Experience")
plt.ylabel("Salary")
plt.show()
```



#### 0.1.4 Model Fitting

```
[9]: from sklearn import linear_model
```

```
[10]: model=linear_model.LinearRegression()
```

```
[14]: model.fit(df[["YearsExperience"]],df['Salary'])
```

```
[14]: LinearRegression()
```

```
[15]: model.coef_
```

```
[15]: array([9449.96232146])
```

```
[16]: model.intercept_
```

```
[16]: 24848.203966523208
```

```
[17]: model.score(df[["YearsExperience"]],df['Salary'])
```

```
[17]: 0.9569566641435086
```

### 0.1.5 Model Prediction

```
[18]: model.predict([[10]])
```

```
C:\Users\luhar\anaconda3\lib\site-packages\sklearn\base.py:465: UserWarning: X
does not have valid feature names, but LinearRegression was fitted with feature
names
```

```
warnings.warn(
```

```
[18]: array([119347.82718107])
```

Here we got the score value 0.9569566641435086 which is a good value. Using the model we predicted the salary of employee with 10 years is Rs.119347.82718107

```
[ ]:
```