02_ML_Multiple_linear_regression

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1 Machine Learning

1.1 Multiple Linear Regression

Step-1 Import dataset

[ ]:
```
import pandas as pd
df = pd.read_csv("ml_data_salary.csv")
df.head()
```

[ ]:

	age	distance	YearsExperience	Salary
0	31.1	77.75	1.1	39343
1	31.3	78.25	1.3	46205
2	31.5	78.75	1.5	37731
3	32.0	80.00	2.0	43525
4	32.2	80.50	2.2	39891

Step-2 Define dependent and independent variables

[ ]:
```
X = df[["age","distance", "YearsExperience"]]
y = df["Salary"]
```

Step-3 Fit Linear Regression Model

[ ]:
```
from sklearn.linear_model import LinearRegression
model = LinearRegression()
model = model.fit(X, y)
model
```

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

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

[ ]:
```
array([-3.00216193e+15,  1.18788781e+15,  3.24424072e+13])
```

Step-4 Evaluating Model Fitness

[ ]:
```
# Model Fitness
print("Score for data =" ,model.score(X, y))
```

```
Score for data = 0.9569687392667418
```

Step-5 Prediction of unknown values

[ ]:
```
model.predict([[31.1,77.75,1.1]])
```

```
c:\Users\Saeed Ahmad\AppData\Local\Programs\Python\Python310\lib\site-
packages\sklearn\base.py:450: UserWarning: X does not have valid feature names,
but LinearRegression was fitted with feature names
  warnings.warn(
```

[ ]:
```
array([36208.875])
```

[ ]:
```

```