**Linear Regression**

import pandas as pd

import statsmodels.api as sm

# Load data from the CSV file

df = pd.read\_csv('Advertising.csv')

# Linear Regression

X\_linear = sm.add\_constant(df['TV'])

model\_linear = sm.OLS(df['sales'], X\_linear).fit()

# Multiple Regression

X\_multiple = sm.add\_constant(df[['TV', 'radio', 'newspaper']])

model\_multiple = sm.OLS(df['sales'], X\_multiple).fit()

# Budget and Sales Target

budget = 1000

sales\_target = 300

# Linear Regression Prediction

predicted\_sales\_linear = model\_linear.predict([1, budget])

# Multiple Regression Prediction

predicted\_sales\_multiple = model\_multiple.predict([1, budget, 0, 0]) # Assuming 0 spending on radio and newspaper

# Display Predictions

print(f"Predicted Sales (Linear Regression): {predicted\_sales\_linear[0]:.2f} units")

print(f"Predicted Sales (Multiple Regression): {predicted\_sales\_multiple[0]:.2f} units")

# Check if the sales target is achieved

if predicted\_sales\_multiple[0] >= sales\_target:

print("Sales target can be achieved with the given budget.")

else:

print("Sales target cannot be achieved with the given budget.")

https://medium.com/@junaidfarooq0427/make-use-of-language-models-and-annotation-tools-for-sentiment-analysis-eeb7e86f620c