Assignment:-2

Linear Regression

May 29, 2024

1 Introduction

Advertising plays a crucial role in driving sales for a company. By allocating budgets to various channels like TV, newspapers, and radio, companies aim to enhance brand awareness, engage potential customers, and stimulate demand for their products. Understanding the impact of advertising expenditures on sales helps businesses optimize their marketing strategies, ensuring a higher Return On Investment (ROI) and sustainable growth.

2 Problem Statement

Develop a linear regression model to predict sales based on advertising expenditures in TV, newspaper, and radio. Using a dataset with historical data on advertising expenditure and corresponding sales figures, try to identify the most effective advertising channels. The model will enable companies to make data-driven decisions on budget allocation, maximizing their advertising ROI and driving business growth. The dataset for the above problem statement is attached here.

3 Submission Guidelines

- Submission is to done in a **GROUP** of 2 mentees **MAX**.
- Submission Should be in $Assignment - 2 - Teamname.ipynb$ format.(Only 1 submission per team).
- Deadline for Team Submission:-31st June 2024(Friday) 18:00.
- Submit a brief report (1 for each team) describing the parameters and the R2 score of the model.
- **NO PLAGIARISM**, Showcase your Creativity.
- Brownie points (Maybe Brownies as well) for the most accurate model :).
- **Submission Deadline:-** 2nd June 2024(Sunday) 23:59.
- You may follow the same steps mentioned in the README as before for uploading the Assignments.

4 SciKit Resources

- Scikit resources : You may refer this video for understanding the implementation of linear regression from scratch.

5 Hey!

Don't fret on the accuracy of the models, these are just the initial steps and not much is expected. Happy Coding!!