PREDICTIVE ANALYSIS OF SALES USING NEURAL NETWORK ALGORITHM

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Dataset description:

The dataset used for this analysis was created for students in 'Data-Driven Marketing' and 'Data Science for Business'. The dataset contains the following features:

- **TV promotion budget (in million)**
- **Social Media promotion budget (in million)**
- **Radio promotion budget (in million)**
- **Influencer**: Whether the promotion collaborates with Mega, Macro, Nano, Micro influencer
- **Sales (in million)**

Link: https://www.kaggle.com/datasets/harrimansaragih/dummy-advertising-and-sales-data?resource=download

Model Parameters:

Input features:

- **TV**: TV promotion budget (in million)
- **Radio**: Radio promotion budget (in million)
- **Social Media**: Social Media promotion budget (in million)

The output parameter :

- **Sales**: Sales (in million)

Evaluation Results:

The model was evaluated using several metrics. The results are as follows:

- **R-Squared value**: 0.9988926068937247
- **Mean Squared Error value**: 9.666266467120217
- **Root Mean Squared Error value**: 3.1090619915209503
- **Normalize Root Mean Squared Error value**: 0.9410362372926943
- **Mean Absolute Error value**: 1.9034919485983637

These results indicate that the model has a high degree of accuracy in predicting sales based on the given input features.

Notebook link:
https://colab.research.google.com/drive/1KdLlddXkgrYUPImlxixsTEwozifNtcwf?authuser=3#scrollTo=IA0yApEmBG1X