AICP Internship Task

Instagram Reach Forecasting

Instagram reach forecasting is the process of predicting the number of people that an Instagram post, story, or other content will be reached, based on historical data and various other factors.

For content creators and anyone using Instagram professionally, predicting the reach can be valuable for planning and optimizing their social media strategy. By understanding how their content is performing, creators can make informed decisions about when to publish, what types of content to create, and how to engage their audience. It can lead to increased engagement, better performance metrics, and ultimately, greater success on the platform.

Find dataset "**Instagram-Reach.csv**"

Below are the features in the data:

1. Date
2. Instagram Reach

You are required to identify the patterns and trends in the data, identify any seasonality or cyclic behaviour, and detect any outliers or anomalies. Based on the insights gained from the analysis, develop a predictive model that can forecast the reach of the Instagram account for the next period of time.

Q.1: Import data and check null values, column info, and descriptive statistics of the data.

Q.2: You can convert the Date column into datetime datatype to move forward.

Analyzing Reach

Q.3: Analyze the trend of Instagram reach over time using a line chart

Q.4: Analyze Instagram reach for each day using a bar chart.

Q.5: Analyze the distribution of Instagram reach using a box plot.

Q.5: Now create a day column and analyze reach based on the days of the week. To create a day column, you can use the python method to extract the day of the week from the Date column.

Q.6: Now analyze the reach based on the days of the week. For this, you can group the DataFrame by the Day column and calculate the mean, median, and standard deviation of the Instagram reach column for each day.

Q.7: Now create a bar chart to visualize the reach for each day of the week.

To forecast reach, you can use Time Series Forecasting.

Q.8: Check the Trends and Seasonal patterns of Instagram reach.

Q.9: You can use the SARIMA model to forecast the reach of the Instagram account. You need to find p, d, and q values to forecast the reach of Instagram. To find the value of d, you can use the autocorrelation plot, and to find the value of q, you can use a partial autocorrelation plot. The value of d will be 1. You have to visualize an autocorrelation plot to find the value of p, partial autocorrelation plot to find the value of q,

Q.10: You have to train a model using SARIMA and make predictions