**Main Problem Statement: Fake Profile & Bot Detection in Social Media**

* A social media platform is facing issues with fake profiles and bots that manipulate engagement, spread misinformation, and degrade user experience. The challenge is to analyze user activity patterns and classify whether a profile is likely real or fake.

1. Objectives for Contestants
2. Data Exploration & Cleaning
3. Identify missing or inconsistent values in the dataset.
4. Perform basic statistical analysis (mean, median, standard deviation) to understand trends.
5. Visualize key features using histograms, box plots, and scatter plots.
6. Identify Key Indicators of Fake Profiles & Bots
7. Analyze follower-following ratio: Bots often follow many accounts but have fewer followers.
8. Check for anomalies in posting behavior:
9. Extremely high or low posting frequency.
10. Accounts posting at regular, non-human intervals (e.g., every 5 mins).

Sentiment Analysis:

1. Bots often post negative or neutral sentiment content.
2. Segmentation & Clustering of User Profiles
3. Use clustering techniques (K-Means, DBSCAN, Hierarchical Clustering) to group users into segments:
4. Normal users vs. Influencers vs. Bots
5. Determine characteristics that differentiate fake profiles.