Fitness Activity Recognition

Demo 5
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Kinetics Dataset

- A collection of large-scale, high-quality datasets of URL links of up to 650,000 video clips that cover 400/600/700 human action classes, depending on the dataset version.
- Each action class has around 1000 video 10 second human annotated clips.
- Manually selected 43 fitness activity related actions to be added to s3 dataset bucket. A total of 37,806 10 second clips added to the training set. Activities chosen can be found here: Actions.csv. Notable additions: Clean and press, deadlift, situp, rope pushdown, pull ups, jumping jacks, skip rope, front raises,...
- Corresponding validation set of 2189 10 second clips.

Engagement Metric

- Use Youtube API for extraction.
- Find appropriate fitness activity videos.
- Run a script to extract statistics
- Statistics Extracted/Video:
  - View Count
  - Like Count
  - Favourite Count
  - Comment Count
- Calculate Engagement
- Use that as the 'Target' class for new Rating Classifier/Regressor.

Workflow
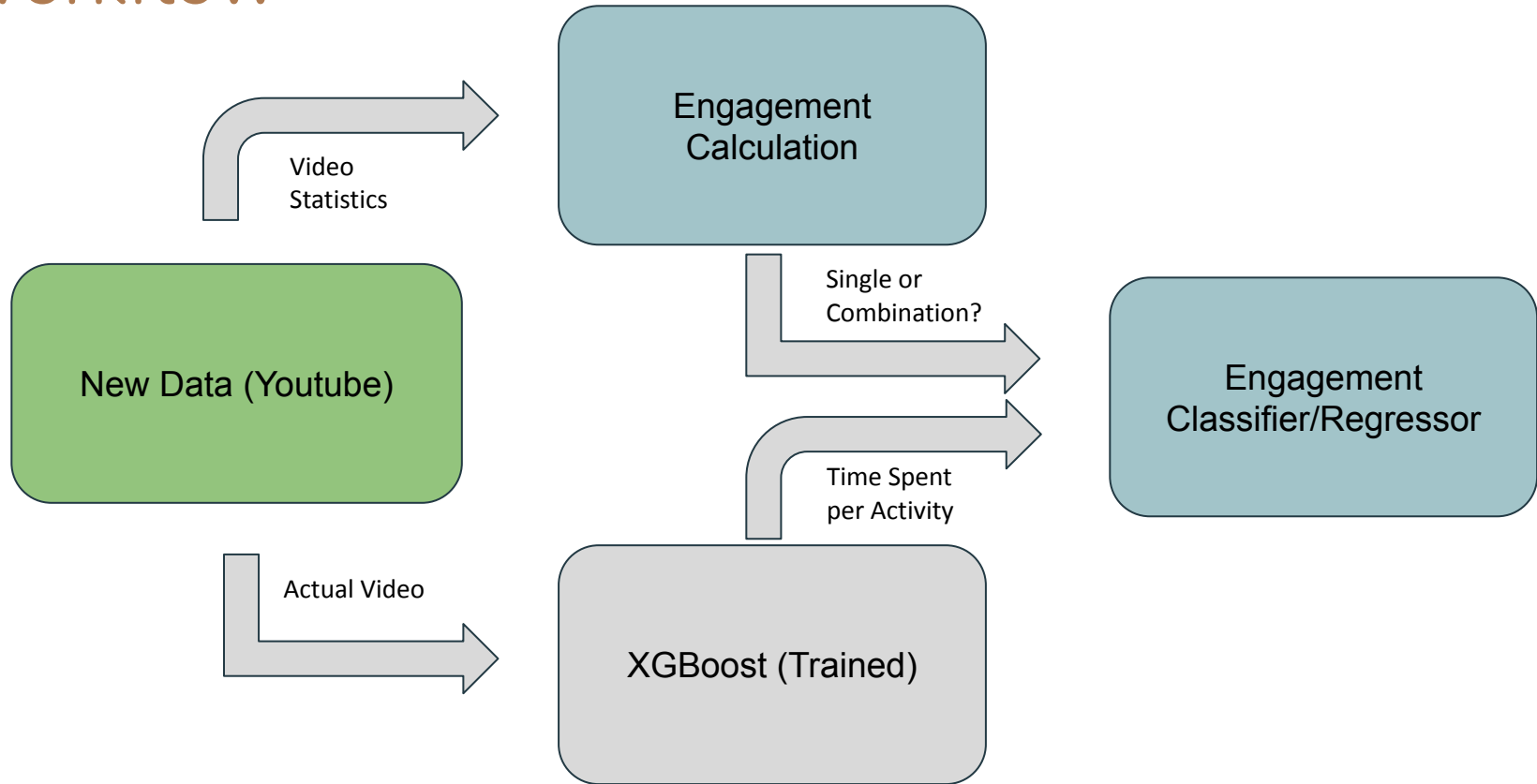
Engagement Calculation?

- We need to decide how will we approach this..
- Engagement can be calculated:
    - Selecting any one of the derived statistics for ex: Likes
    - Combination of some/all statistics for ex: Likes per 10k Views + Favorite count
- Or find a pre-trained classifier from research?

We propose

- Come up with a combination of **all** statistics and train a **Regressor Model** to predict engagement score.
- Later we can normalize to a "Out of 5" or "Out of 10" scale.

Thank you!

Any Questions?