

# Video Recommendation System

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# Business Objective

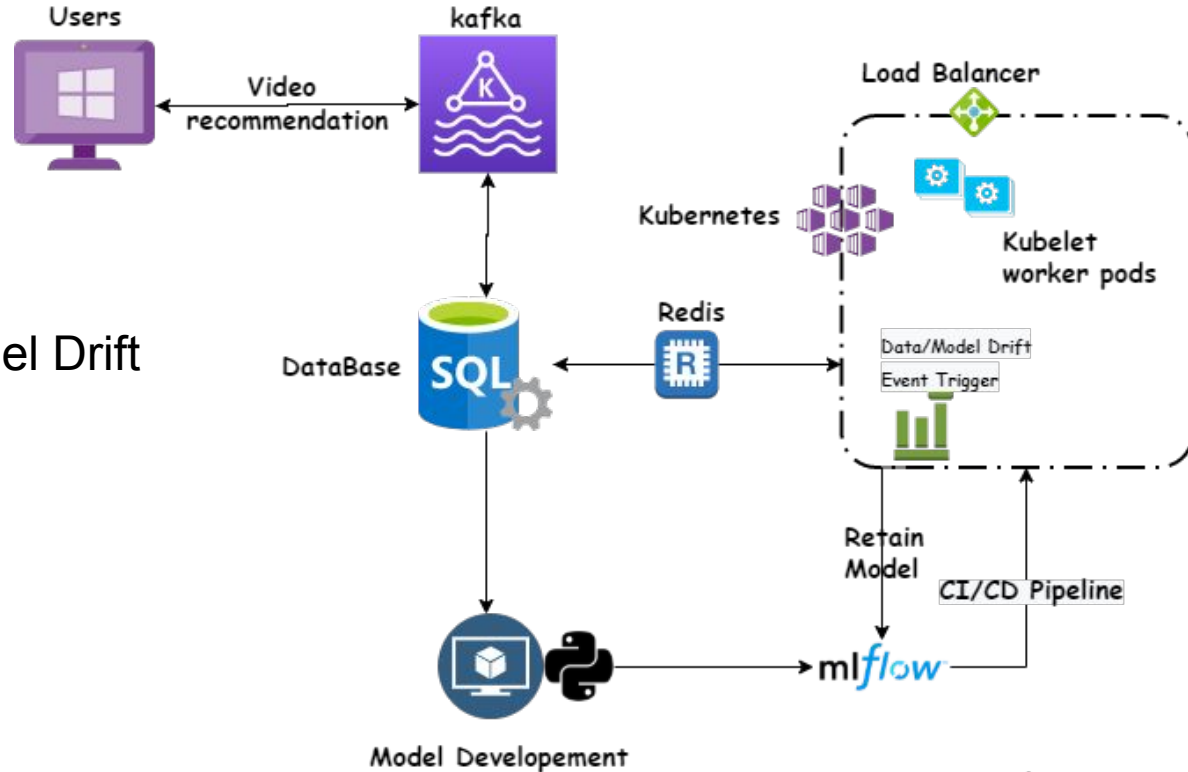
- Custom video recommendations to improve user experience and there by user engagement.

# Technical Objective

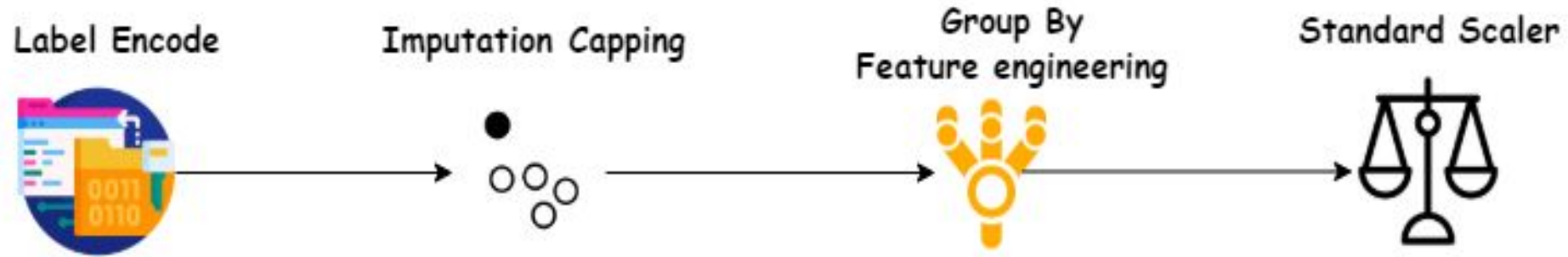
- Predict engagement score of videos.
  - Engagement prediction to improve better content recommendation.
  - Which content is to be recommended to a larger audience.

# Solution architecture

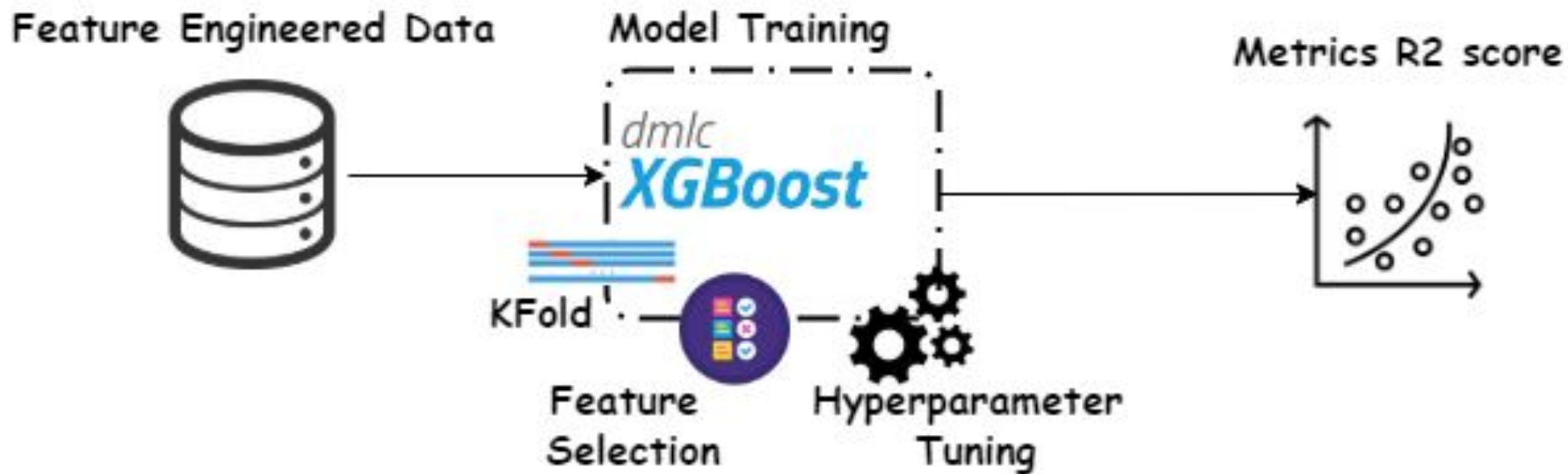
- Scalable architecture
- Optimise code  
Framework- Pyspark
- CI/CD pipeline
- Monitor DataDrift & Model Drift



# Feature Engineering



# Model Training



# Results

- **Training**

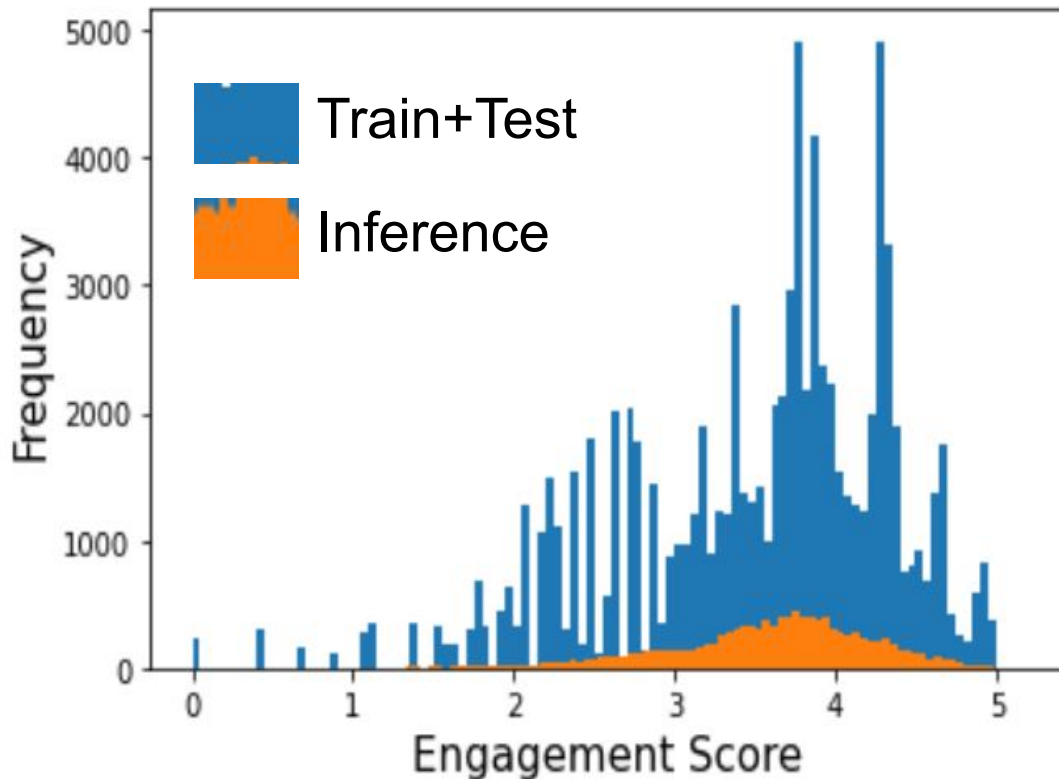
- $r^2$  score : 0.7116
- MAE : 0.3291
- MSE : 0.2143
- RMSE : 0.4629
- RMSE : -0.7701

- **Test**

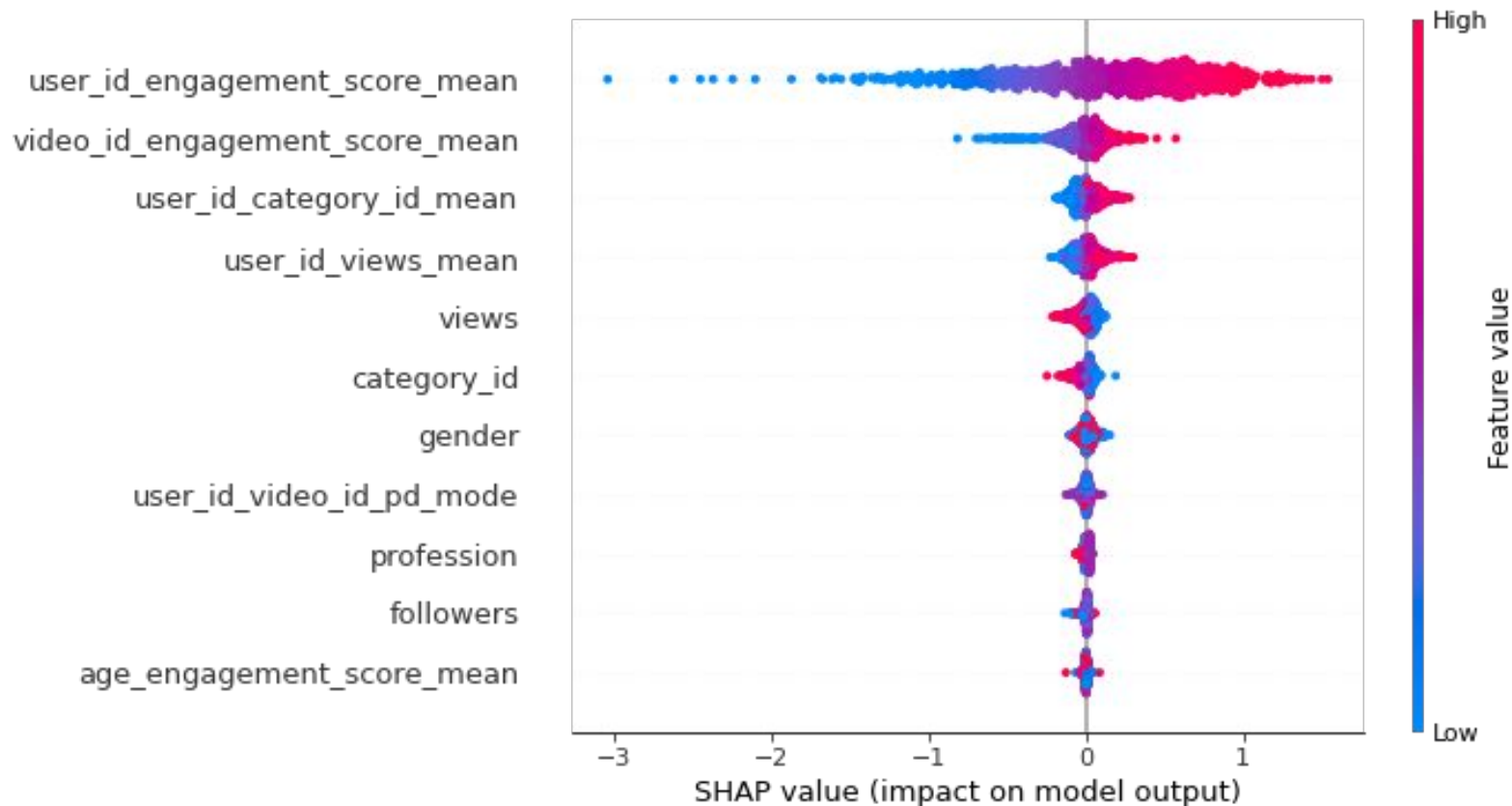
- $r^2$  score : 0.7058
- MAE : 0.3342
- MSE : 0.2222
- RMSE : 0.4714
- LRMSE : -0.7519

- **Inf  $r^2$  score: 0.465**

## *Engagement Score Distribution*



# Feature Importance: BeeSwarm Plot



# Feature Importance: Bar Plot

