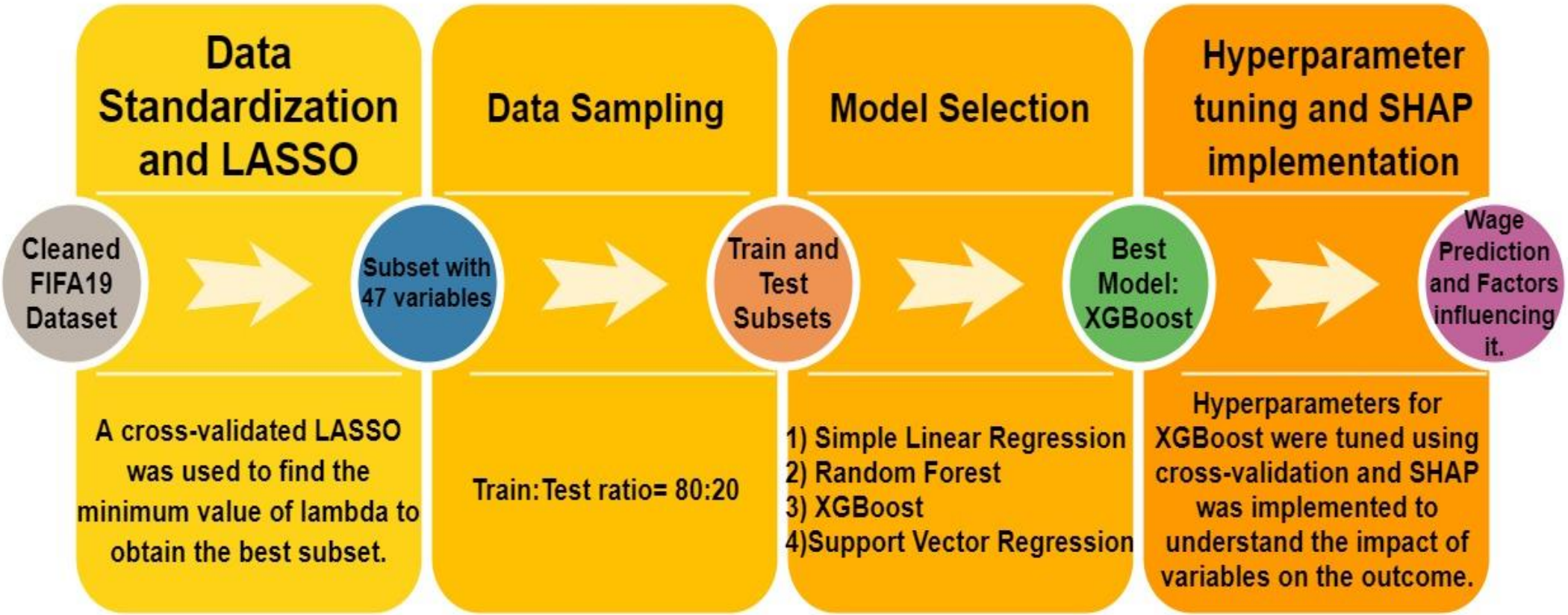
FIFA19 Player Analysis and Predictions.

Use Case: Increase Performance of Individual or Clubs in their Respective Leagues.

Anand Krishnamoorthy
Anugraha Venugopal
Devanshi Deswal
Manaswini Nagaraj

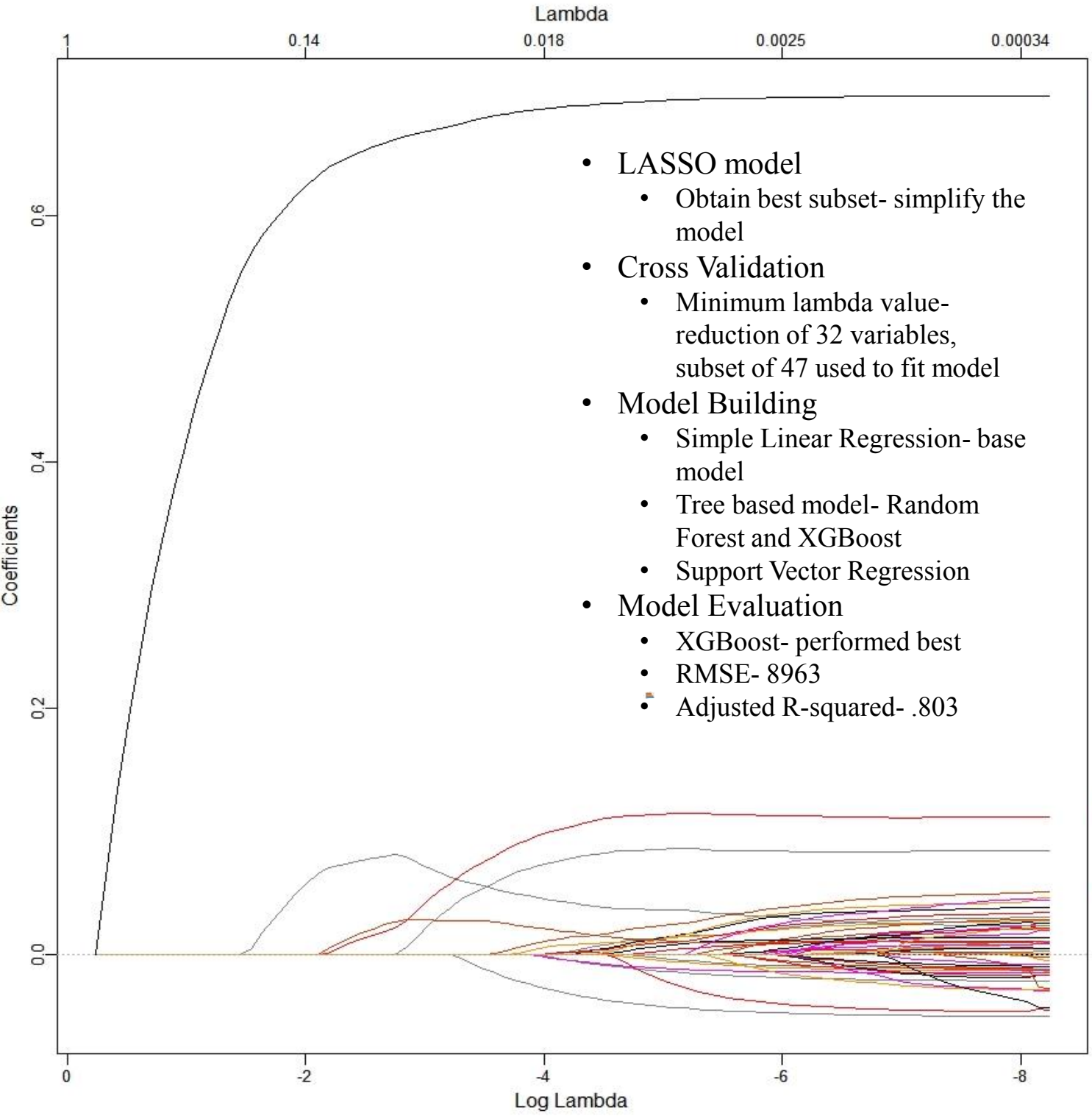
Wage Prediction for Players

- Players want to maximize wage. But team budget is a constraint!
- Build a model predicting apt wages to make the two ends meet.



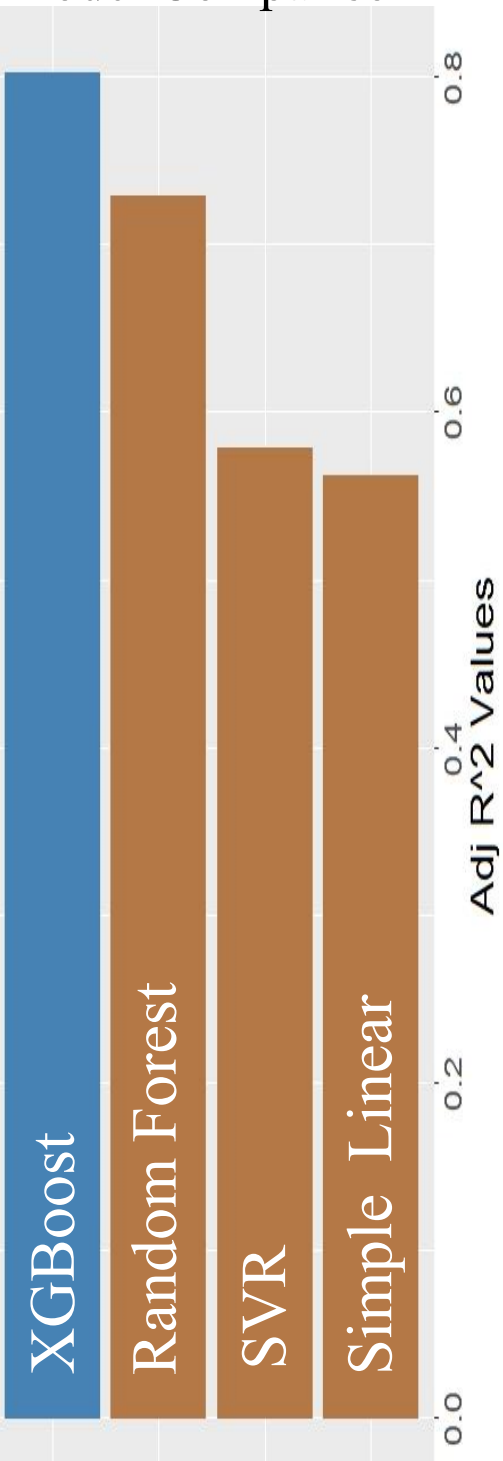
Sequence of tasks to predict the Wage of a player

LASSO & XGBoost



- LASSO model
  - Obtain best subset- simplify the model
- Cross Validation
  - Minimum lambda value- reduction of 32 variables, subset of 47 used to fit model
- Model Building
  - Simple Linear Regression- base model
  - Tree based model- Random Forest and XGBoost
  - Support Vector Regression
- Model Evaluation
  - XGBoost- performed best
  - RMSE- 8963
  - Adjusted R-squared- .803

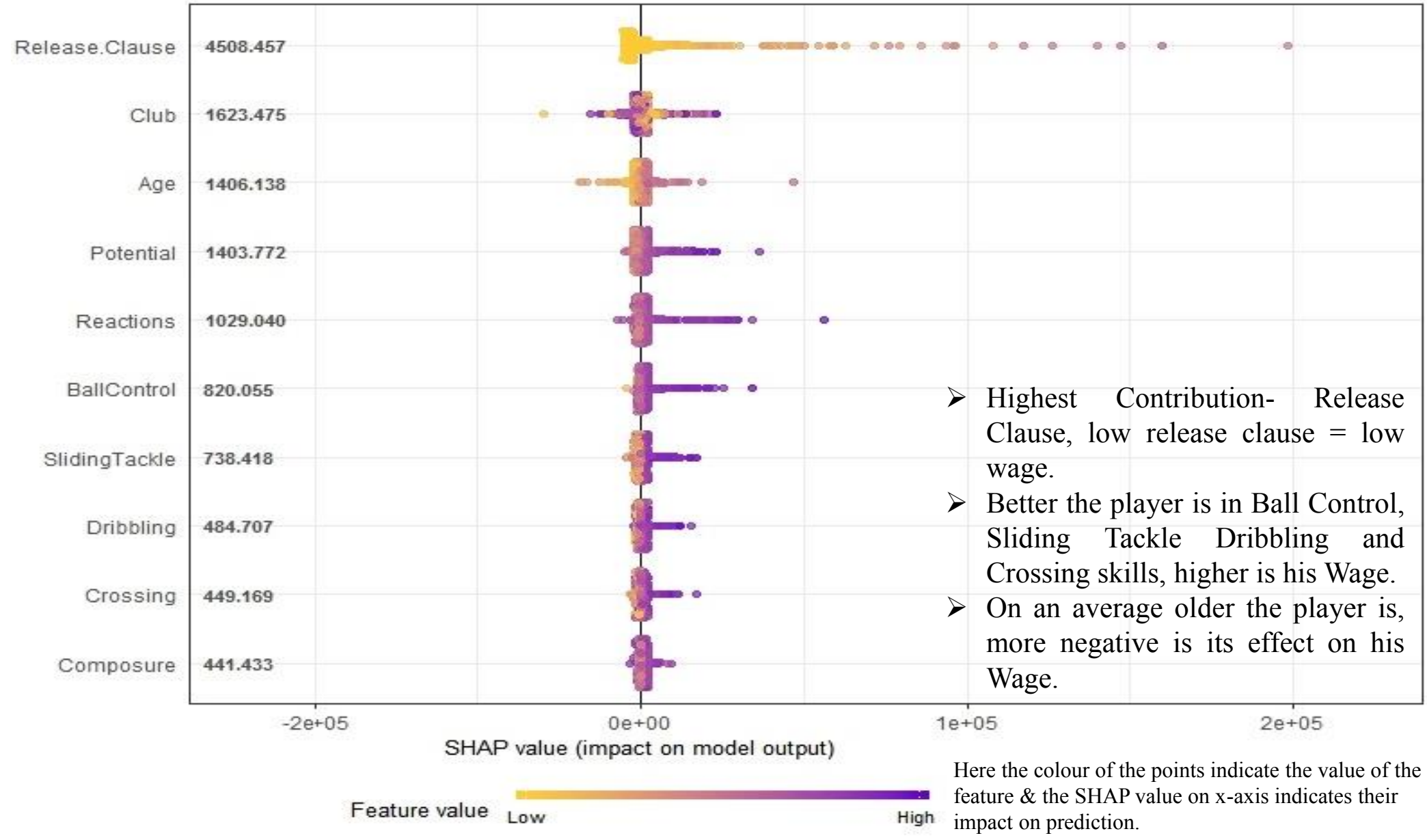
Model Comparison



Measuring Impact

SHapley Additive exPlanation(SHAP)- measures the impact of variables in the model to predict "wages" taking into account the interaction with other variables.

Top 10 variables with the highest shapley values.



- Highest Contribution- Release Clause, low release clause = low wage.
- Better the player is in Ball Control, Sliding Tackle Dribbling and Crossing skills, higher is his Wage.
- On an average older the player is, more negative is its effect on his Wage.

Here the colour of the points indicate the value of the feature & the SHAP value on x-axis indicates their impact on prediction.