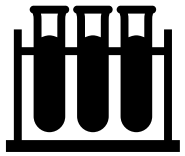
F1 Grand Prix Race Win Predictor – Sprint 3

Reintroduction to the Problem Space

Predicting F1 winner: can we make **£** ?

What makes a winner?



Models for Sprint 3

- Logistic Regression
- Decision Tree
- Random Forest
- XG Boost

Data Overview and Changes

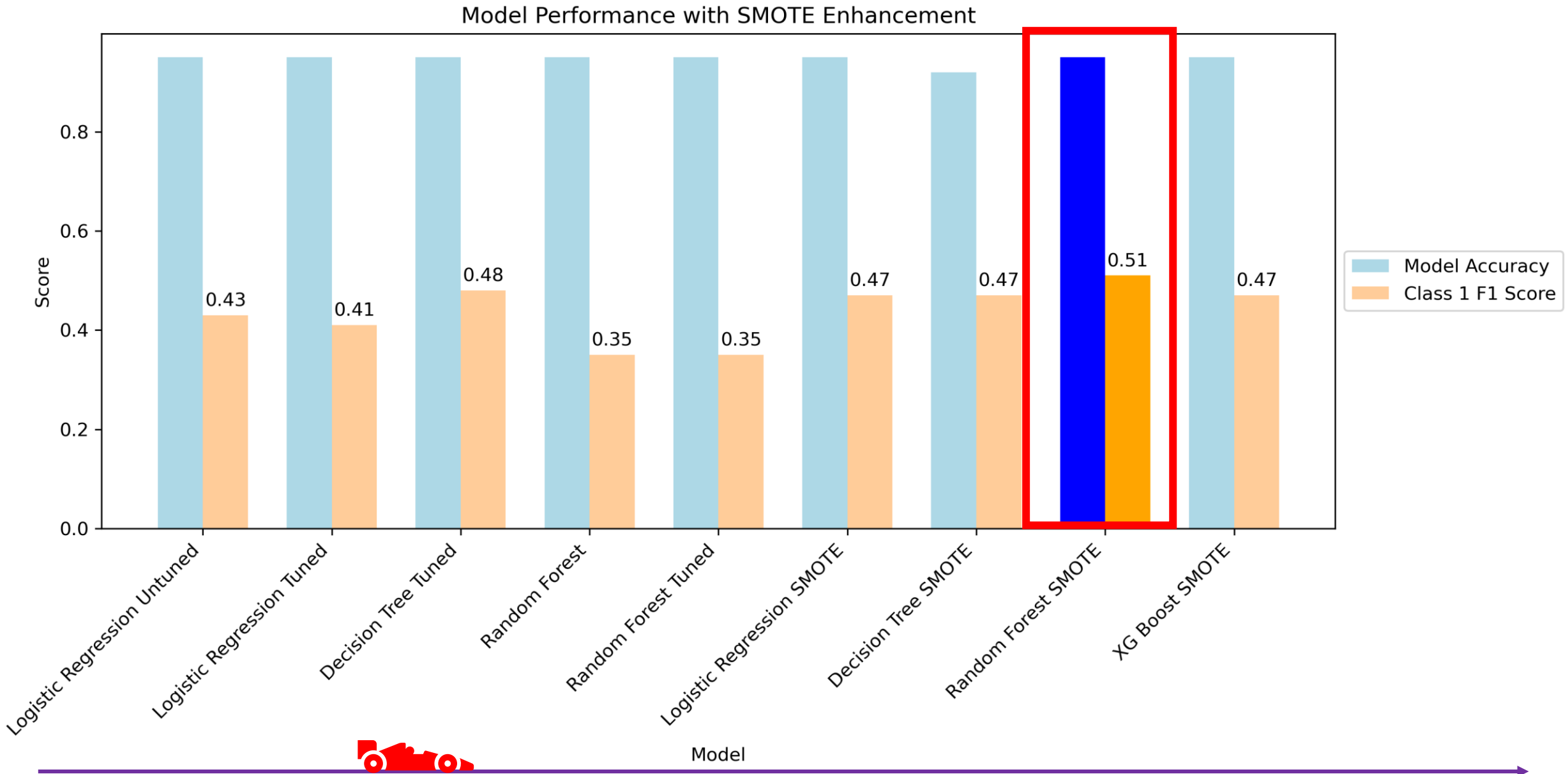
Dataset V3: more feature engineering

Encoding Changes: e.g. constructorId

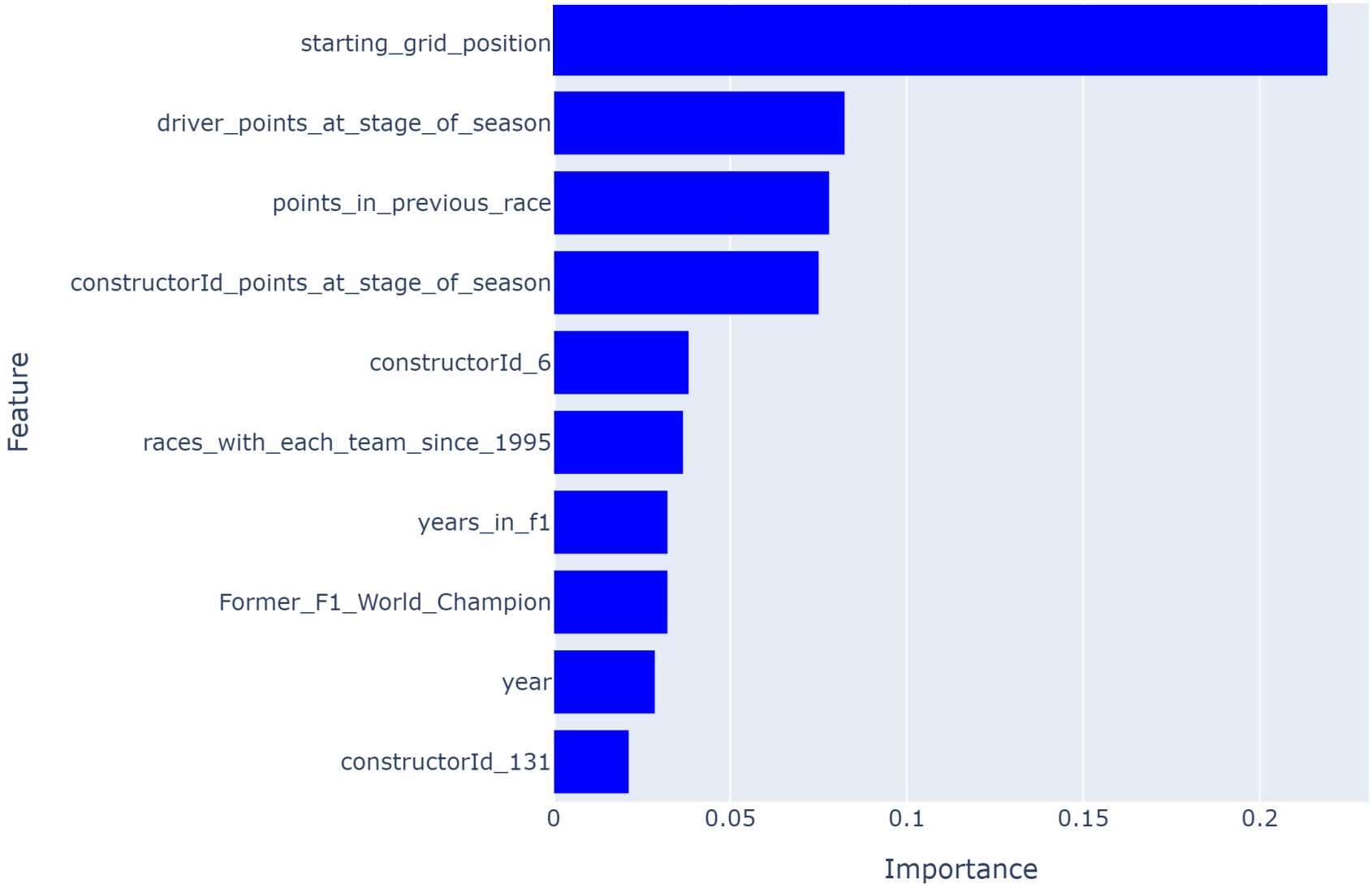
New Features: e.g. age, years in F1

2024 dataset: created for testing

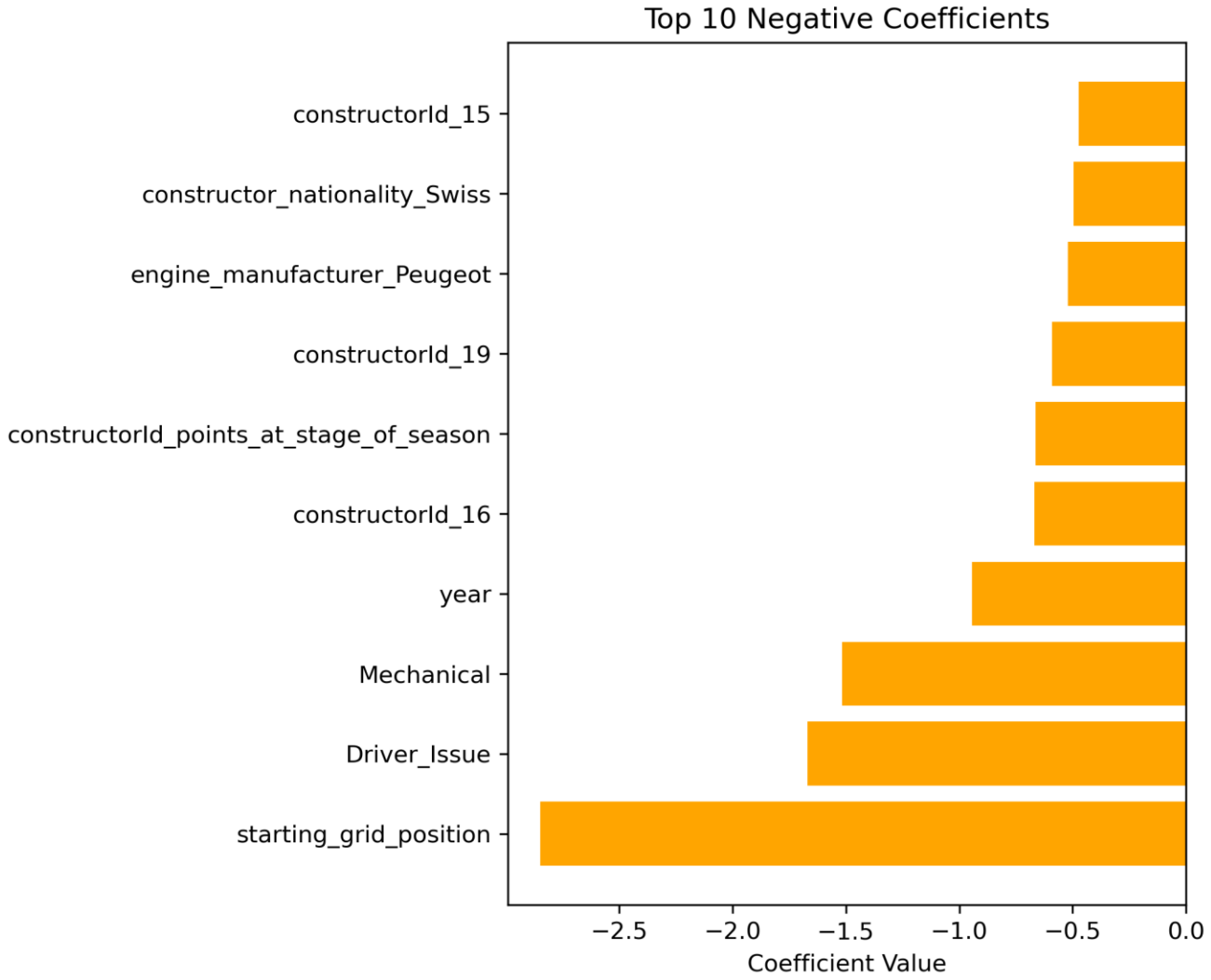
Random Forests SMOTE Performed best

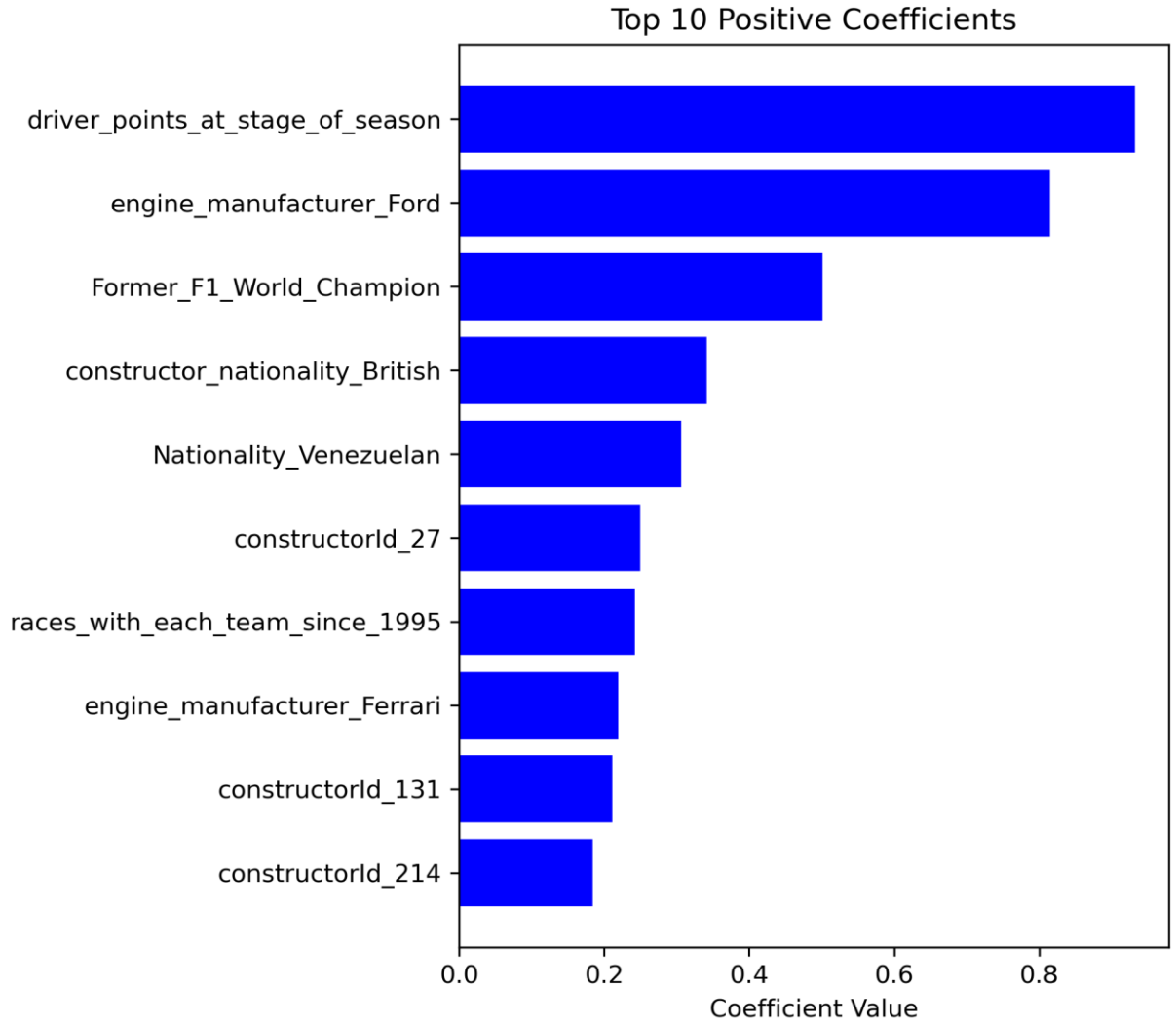


Starting Grid Position is Key To Predicting Winners

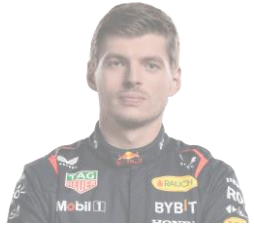
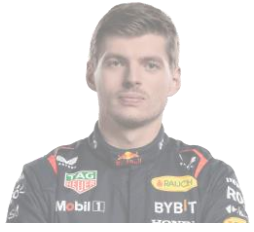
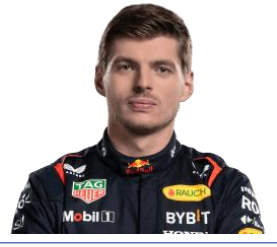
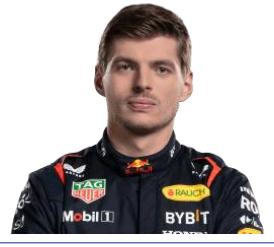
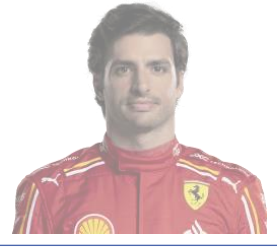
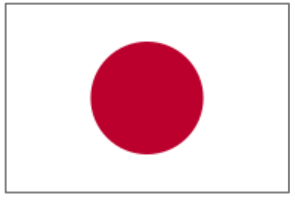
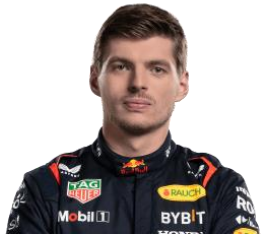
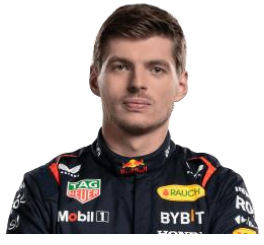


What factors influence wins… from 1st Logistic Regression





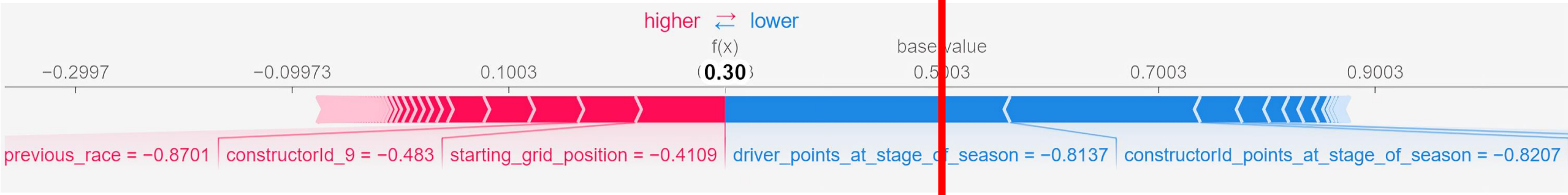
Would we have won any money in 2024? £92

Race	Model Prediction		Race Winner		Bet?	Winnings
		30%		1.35x		
		**59%**		**1.25x**	**£100**	**£25**
		28%		9x		
		**56%**		**1.67x**	**£100**	**£67**

Model Interpretation – Shapley Value

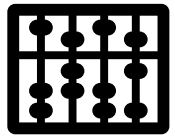
NO WIN

WIN

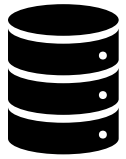


Moving forward…

Demo Day & Final Submission

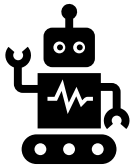


Make the model simpler



Automate Data Collection Pipeline

UX & Data Design – AWS Amplify

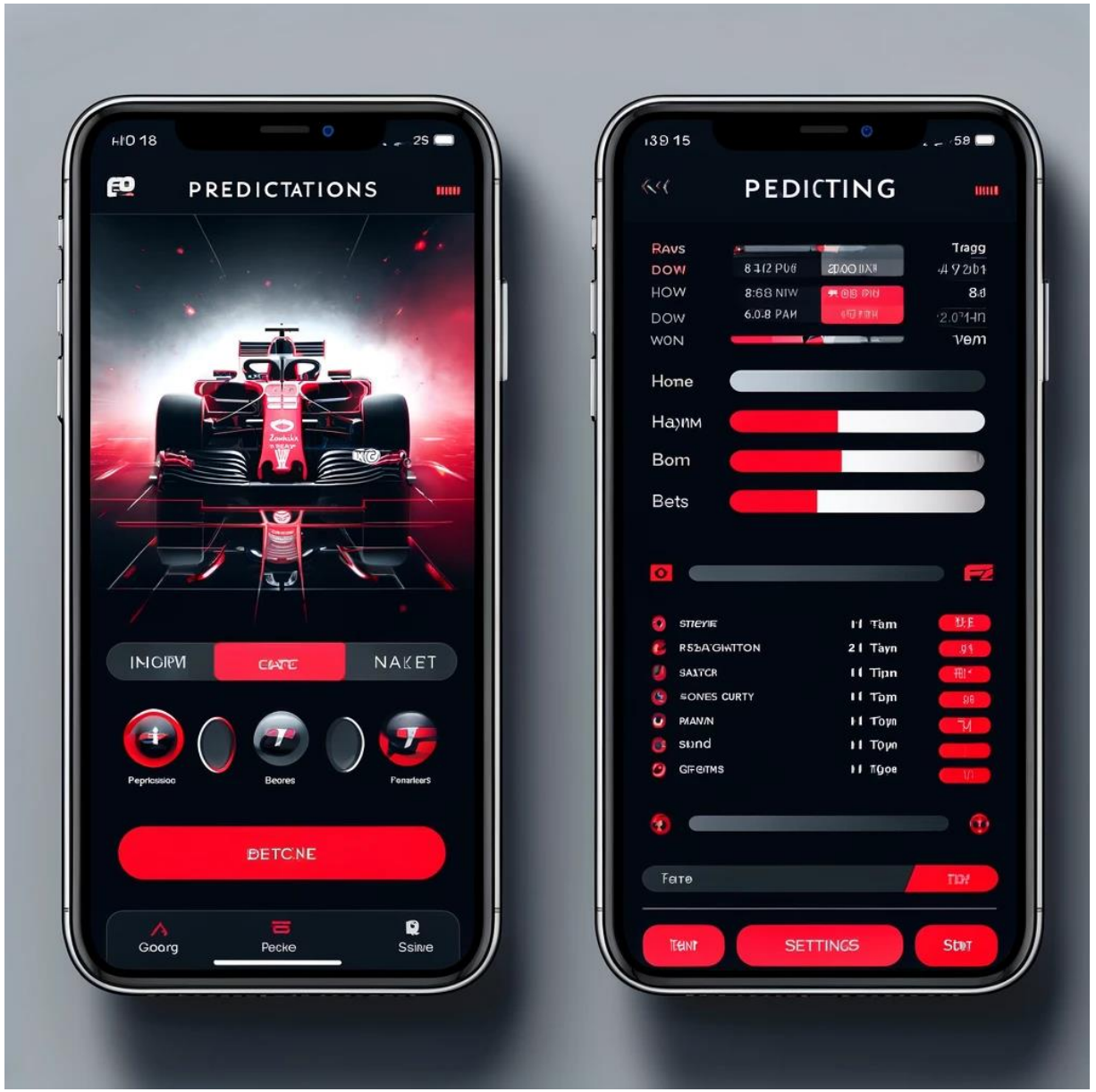


ML to Predict Variables Pre-Race

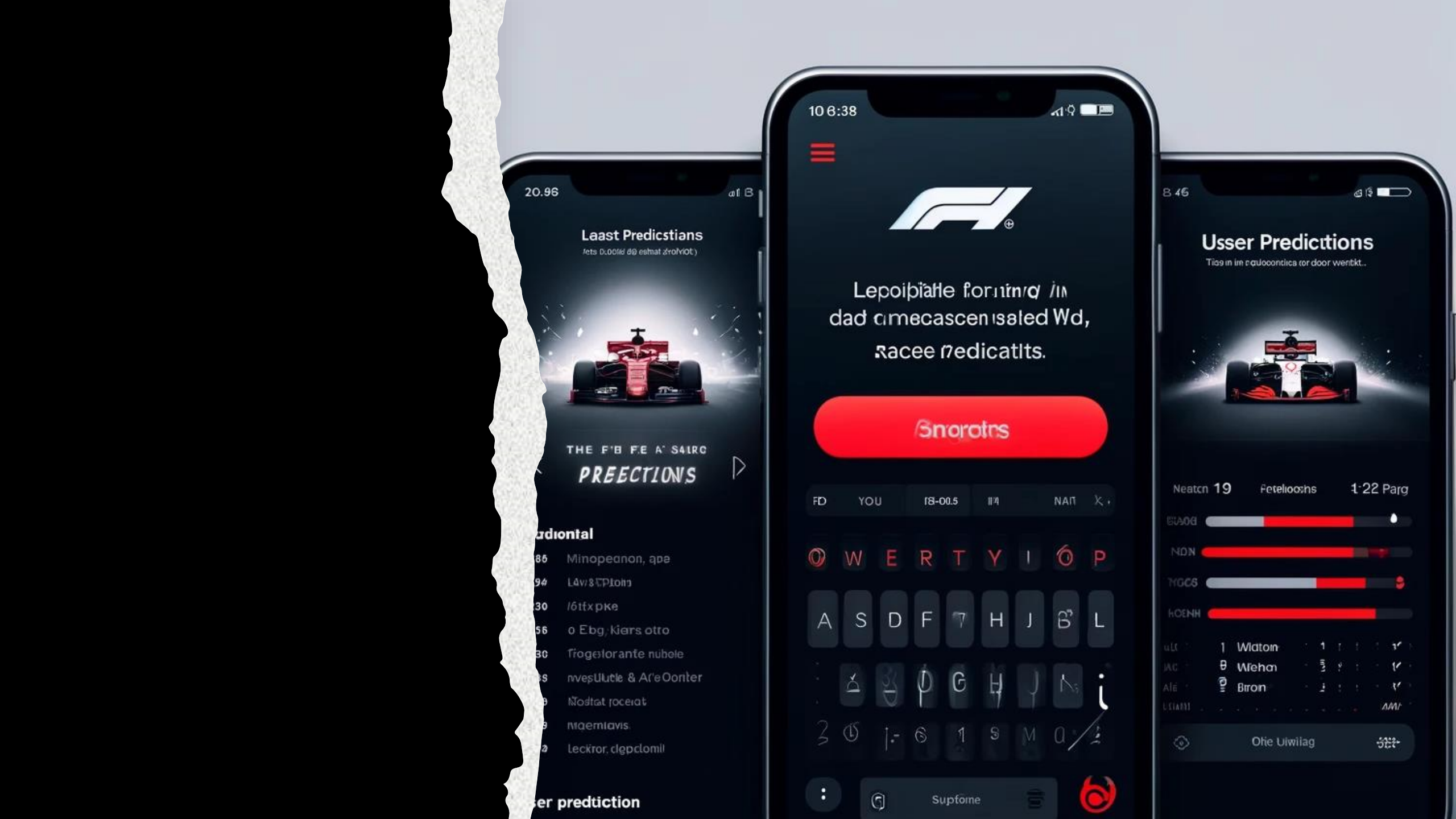
Thanks for your time

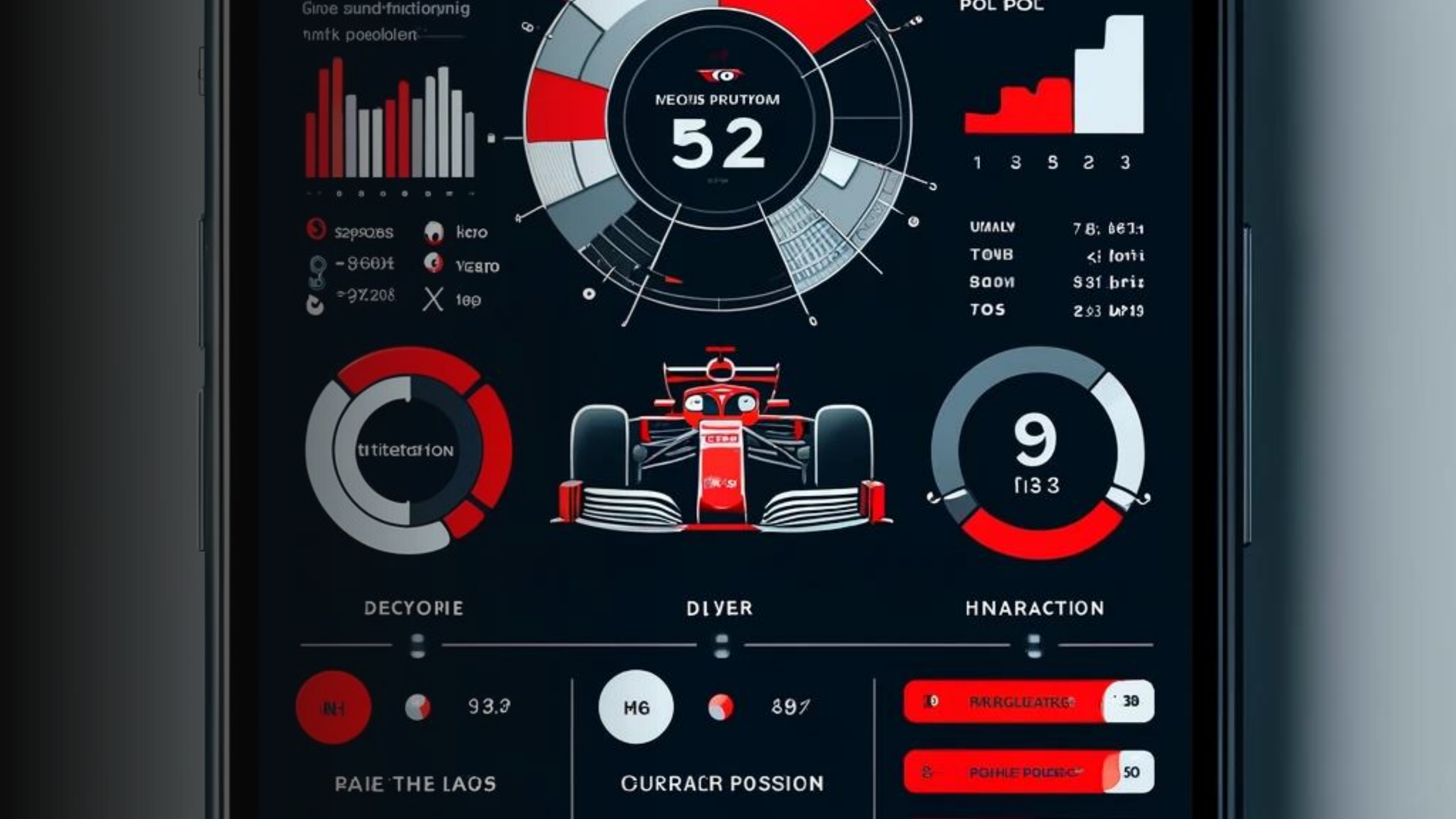
Appendix

Product Design Idea




PREDICTATIONS
PEDICTING
SETTINGS


Laast Predicstians
PREECTIONS
User Predictions
Supfome


52
1 3 5 2 3
DECYORIE
DIVER
HNARACTION
9
RAIE THE LAOS
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integrations

What Model performed the best?