



A SPORTS ANALYTICS COMPANY

DIGI-SPORTS

DATA SCIENCE FOR YOUR SPORTS BUSINESS



BUSINESS CASE

Analysis

Overpaid and underplayed: what Mesut Ozil and Alexis Sanchez tell us about football's market problem



ALEXIS SANCHEZ EARNS £350,000 WEEKLY - HIGHEST EARNER IN MANUTD'S HISTORY



MESUT OZIL EARNS £300,000 WEEKLY - HIGHEST EARNER IN ARSENAL'S HISTORY



MAN UTD'S EPIC SLUMP DURING ED WOODWARD'S TIME IN CHARGE

	MANAGER	PL	EUROPE	FA CUP	LGE CUP	
12-13*	FERGUSON	1st	CL QF	6th rnd	4th rnd	
13-14	MOYES	7th	CL QF	3rd rnd	Semis	0
14-15	VAN GAAL	4th	N/A	6th rnd	2nd rnd	0
15-16	VAN GAAL	5th	CL GROUP, EUROPA 16	WINNERS	4th rnd	1
16-17	MOURINHO	6th	EUROPA	QF	WINNERS	2
17-18	MOURINHO	2nd	CL LAST 16	FINAL	5th rnd	0
18-19	MOURINHO / SOLKSJAER	6th	CL QF	QF	3rd rnd	0

*David Gill's final season as chief executive

EDS HAVE GONE Gary Neville calls for Man Utd to SACK Ed Woodward for transfer failings and 'second-highest wage bill in world'

William Pugh

20 Jan 2020, 13:33 | Updated: 20 Jan 2020, 14:38



5 Comments

GARY NEVILLE has called for Manchester United to sack Ed Woodward over his failings in the transfer market.

The Old Trafford legend also pointed to the club having the "second highest wage bill in the world" and said the final product on the pitch does not match the investment.



DIGI-SPORTS PROCESS

DATA SCIENCE ANALYTICS AND INSIGHTS



ANSWER YOUR
BUSINESS
QUESTIONS

ANALYSE THE MARKET
AND FIND THE BEST
PLAYERS

ANALYSIS AND
SCOUT REPORT
ON PLAYERS

USING DATA SCIENCE TO
CREATE DETAILED
SCOUTING REPORT ON
PLAYERS

MODEL
PREDICTION

MODEL PREDICTS THE
WAGES OF PLAYERS
BASED ON
PERFORMANCES

Lei Wu	Midfielder	RCD Espanyol	La Liga	China	£14,500,000	36000	23691.703125
Alvaro Morata	Forward	Atlético Madrid	La Liga	Spain	£32,000,000	80000	72490.804688
Juanpi	Midfielder	SD Huesca	La Liga	Venezuela	£5,000,000	9000	5417.735352
Pedro León Sánchez Gil	Midfielder	SD Eibar	La Liga	Spain	£11,500,000	30000	25415.716797
Hatem Ben Arfa	Midfielder	Rennes	Ligue 1	France	£11,000,000	38000	20047.337891
Ismaila Sarr	Midfielder	Rennes	Ligue 1	Senegal	£17,000,000	47000	17458.775391
Cesc Fabregas	Midfielder	Monaco	Ligue 1	Spain	£13,500,000	50000	26753.296875
Jose Fonte	Defender	Lille	Ligue 1	Portugal	£5,500,000	32000	19890.558594
Choupo-Moting	Forward	PSG	Ligue 1	Cameroon	£7,500,000	67000	12888.791016
Ángel Di María	Midfielder	PSG	Ligue 1	Argentina	£39,000,000	150000	96403.593750
Radamel Falcao	Forward	Monaco	Ligue 1	Colombia	£16,500,000	64000	25085.884766
Neymar	Forward	PSG	Ligue 1	Brazil	£105,500,000	290000	223835.031250
Nicolas N'Koulou	Defender	Torino	Serie A	Cameroon	£15,000,000	54000	30334.197266
Stephan El Shaarawy	Forward	Roma	Serie A	Italy	£24,000,000	29000	38314.250000
Luca Rigoni	Midfielder	Parma	Serie A	Italy	£3,200,000	37000	26483.486328 Model Unexplained 23.2%

MODEL RESULTS

The model can explain 76% of the variance in the target variable(weekly wages)

Model Explained
76.8%

DI MARIA





INSIGHTS & ANALYSIS FOR OUR CLIENTS



They are in the need of top 10 defenders in the premier league that have high goal involvement ratio per 90 minutes and have played over 2000 minutes in 2018/2019 season

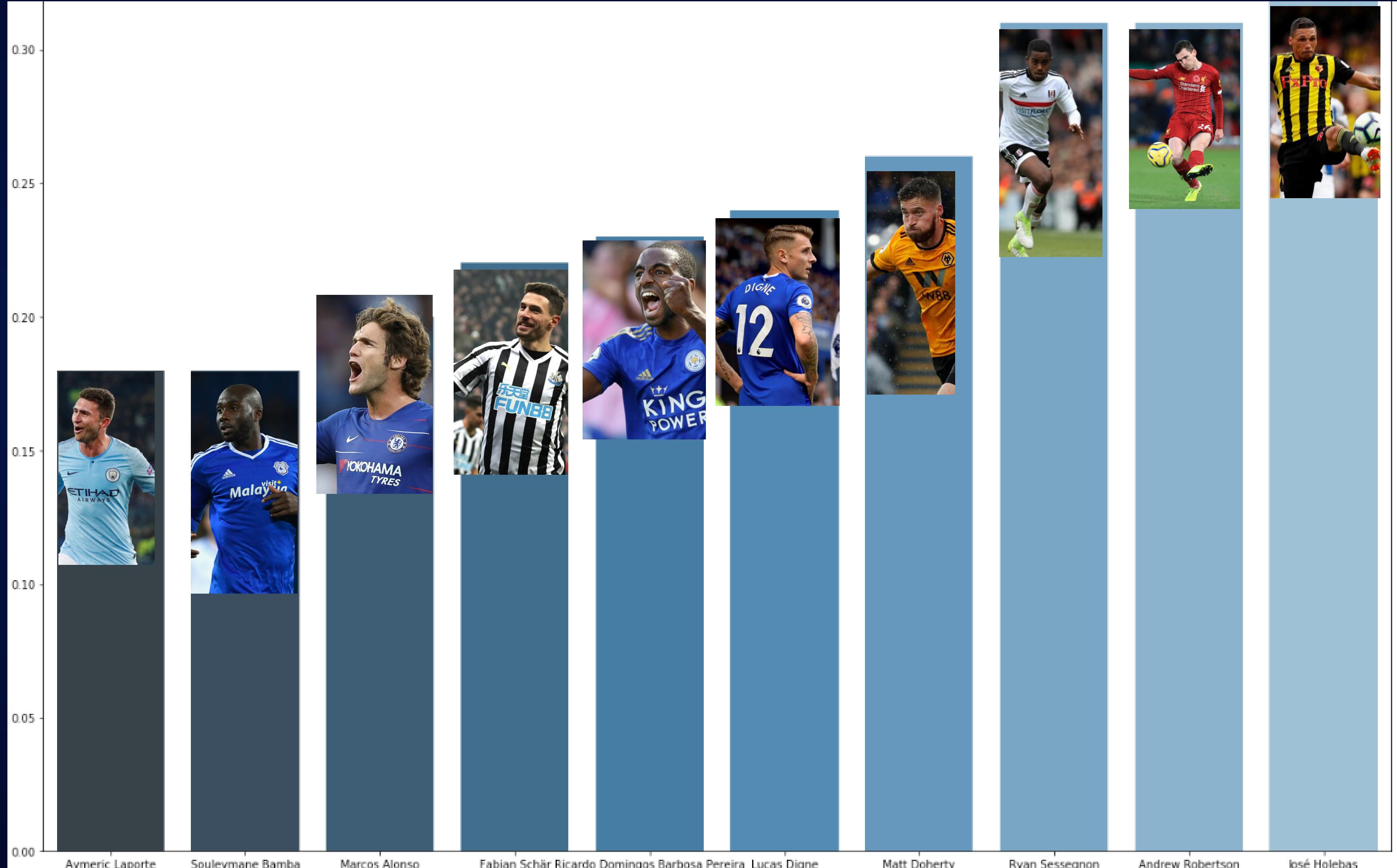


With their tight transfer budget, they asked us to find and suggest a forward in premier league that has the highest ratio of goals/market value



They have tasked us with looking for a striker in the championship that can boost their performance in the upcoming season

HIGHEST GOAL INVOLVEMENT RATIO FOR A PREMIER LEAGUE DEFENDER



DIGI-SPORTS DECISION

2018/2019 STATS



Club	Fulham FC
Goals	2
Goal Involvement ratio	0.31
Assists	6
Clean sheets	4
Age	19
Actual Weekly wages	£38,000
Market Value	£11,000,000
Nationality	England
Model Predicted Wages	£41,244



BEST EPL VALUE FOR MONEY STRIKERS





2018/2019 STATS

Club	AFC B'mouth
Goals	14
Goal Involvement ratio	0.82
Assists	9
Minutes Played	2535
Age	27
Actual Weekly wages	£81,000
Market Value	£17,500,000
Nationality	England
Model Predicted Wages	£82,871



BEST FORWARDS IN THE CHAMPIONSHIP



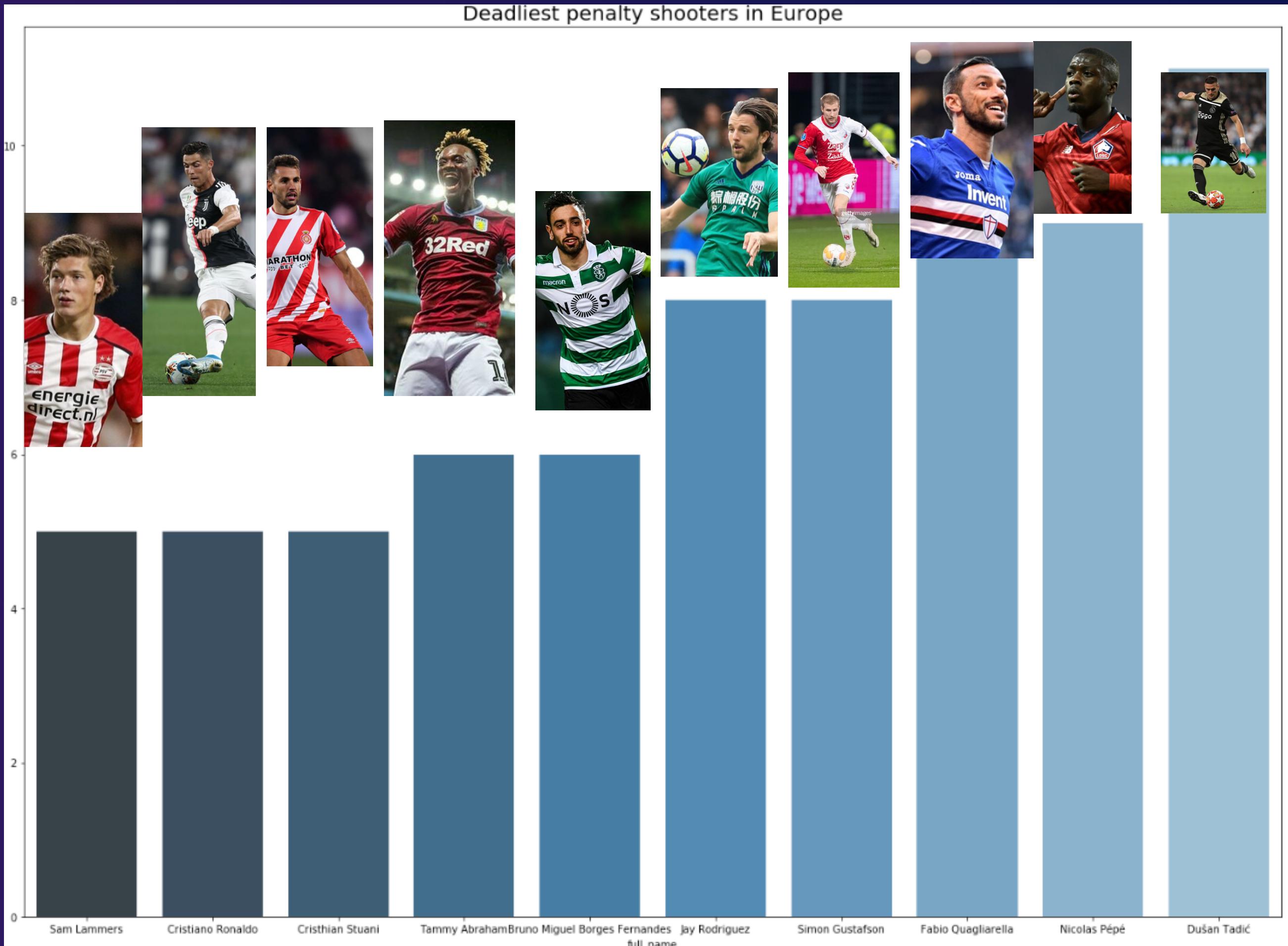


2018/2019 STATS

Club	BRENTFORD
Goals	25
Goal Involvement ratio	0.80
Assists	8
Minutes Played	3713
Age	23
Actual Weekly wages	£40,000
Market Value	£9,500,000
Nationality	France
Model Predicted Wages	£26,692



DEADLIEST PENALTY TAKERS IN EUROPE





2018/2019 STATS

Club

Goals

Goal Involvement ratio

Assists

Minutes Played

Age

Actual Weekly wages

Market Value

Nationality

Model Predicted Wages

SPORTING

20

1.01

13

2943

25

£24,000

£49,000,000

Portugal

£59,388

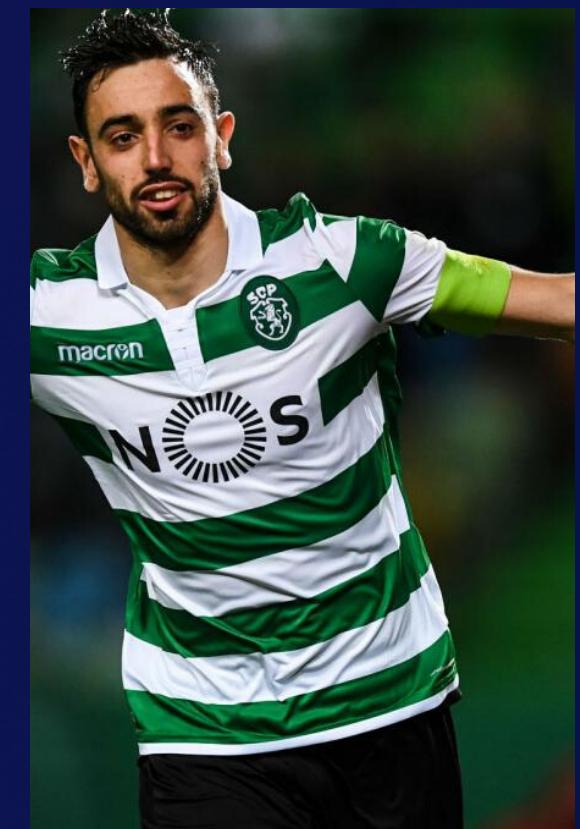


REAL WORLD CASE SCENARIO

BRUNO FERNANDES 2018/2019 WAGES - £24,000

BRUNO FERNANDES 2019/2020 WAGES - £65,000

BRUNO FERNANDES WAGE MODEL PREDICTION - £59,338 ~ £60,000



How much does Bruno Fernandes earn?

The Portuguese star penned a new deal with Sporting last year.

The expiry date was kept the same - end of the 2022/23 season - but his wages were increased.

According to ESPN, Fernandes' contract earns him £3.4million (€4m) per year.

That works out as approximately £65,000 per week, or £283,000 per month.



Bruno Fernandes salary: How much could Man Utd transfer target earn at Old...

Bruno Fernandes is reportedly close to joining Manchester United in the January transfer window - but what is the Sporting Lisbon star's salary and ho...

Express.co.uk / Andy Wilson / Jan 12

full_name	age	league	position	goals_overall	weekly_wages	predicted_wages	market_value
Bruno Miguel Borges Fernandes	25	Liga NOS	Midfielder	20	24000	59388.636719	49000000



THANKS FOR LISTENING

APPENDIX

```
xgb1 = XGBRegressor()
parameters = {'nthread':[4], #when use hyperthread, xgboost may become slower
              'objective':['reg:linear'],
              'learning_rate': [0.01,.03, 0.05, .07], #so called `eta` value
              'max_depth': [2,3,4,5, 6,],
              'min_child_weight': [4],
              'silent': [1],
              'subsample': [0.25],
              'colsample_bytree': [0.7],
              'n_estimators': [500]}

xgb_grid = GridSearchCV(xgb1,
                        parameters,
                        cv = 5,
                        n_jobs = -1,
                        verbose=True)

xgb_grid.fit(X_train_all, y_train)

print(xgb_grid.best_score_)
print(xgb_grid.best_params_)
```

```
xgb_train = xgb_grid.predict(X_train_all)
xgb_predictions = xgb_grid.predict(X_test_all)

training_score = r2_score(y_train, xgb_train)
mean_squared_error_train = mean_squared_error (y_train, xgb_train)

test_score = r2_score(y_test, xgb_predictions)
mean_squared_error_test = mean_squared_error (y_test, xgb_predictions)

print('Training score: {:.2}'.format(training_score ))
print('mean_squared_error for train: {:.2}'.format(mean_squared_error_train))
print('test score: {:.2}'.format(test_score ))
print('mean_squared_error for test: {:.2}'.format(mean_squared_error_test))
```

```
Training score: 0.83
mean_squared_error for train: 2.5e+08
test score: 0.76
mean_squared_error for test: 3.5e+08
```