



PROJECTING PREMIER LEAGUE PLAYERS' SALARIES

\$7,660,000*

Average player salary for Manchester United in 2019/20

1

DATA COLLECTION

What kind of information do I need?

9 Player Statistics

4 major categories: standard, shooting, passing, possession*

7 P90 Statistics

Generated to standardize player performance

383 Players

Played in Premier League and salaries were available**

*player statistics from fbref.com

**player salaries from spotrac.com

2

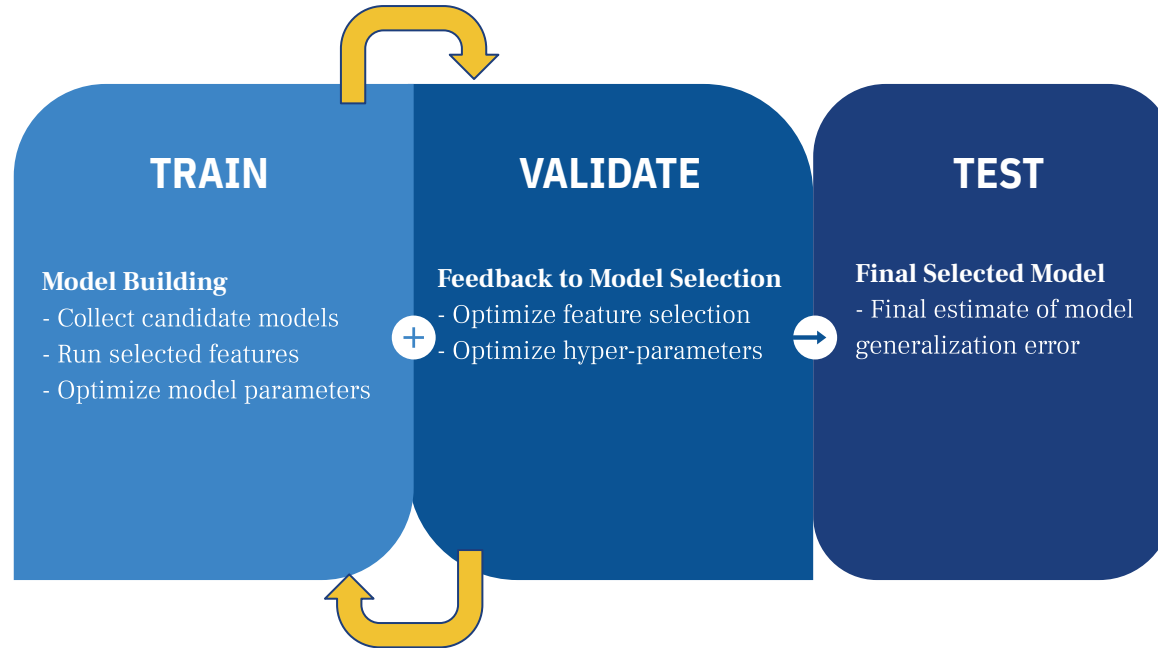
MODEL CREATION

Can machine learning be used to project player salaries?

LINEAR REGRESSION MODELING

CROSS VALIDATION

RIDGE REGRESSION



3

RESULTS

How does each statistic affect player salary?

FEATURE COEFFICIENT RESULTS

	Coeff
Age	0.16
Starts	0.13
Total Pass Completion P90	0.22
Goals P90	0.06*
Shots P90	0.02*

	Coeff
Shots on Target P90	0.17*
Key Passes P90	0.02*
Progressive Passes P90	-0.06*
Dribble Past Players P90	0.01*

***coeff result is in logarithmic scale**

HOW DOES EACH PLAYER STATISTIC AFFECT PLAYER SALARY?

	Salary Effect
Age	\$174,000
Starts	\$139,000
Total Pass Completion P90	\$246,000
Goals P90	\$600 / 1% inc*
Shots P90	\$200 / 1% inc*

	Salary Effect
Shots on Target P90	\$1700 / 1% inc*
Key Passes P90	\$200 / 1% inc*
Progressive Passes P90	-\$600 / 1% inc*
Dribble Past Players P90	\$100 / 1% inc*

*coeff result is in logarithmic scale

4

KEY TAKEAWAYS

How can I use this information?

TOP STATISTICS THAT IMPACT A PLAYER'S SALARY



Per Unit Statistics

1. Total Pass Completion P90
2. Age
3. Starts

Per 1% Statistics

1. Shots on Target P90
2. Goals per 90 min
3. Key Passes P90

“

The Big 6 clubs are
destroying the Premier
League with **money**.

- Roger Bell, Director of Vysyble

PLAYERS' SALARIES DEPEND ON MORE THAN JUST STATISTICS



Richer Clubs

In 2017-2018, the Big 6 had increased revenues from \$310m - \$3.47b while the remaining clubs had a fall in revenue from \$12.5m - \$2.57b.

Popularity

A player's marketability can vastly influence his salary.

E.g: World Cup

Transfer Market

The volatility of the transfer market can widely affect a player's transfer fee and in turn, his salary.

E.g: Neymar: \$53m/yr

5

FUTURE WORK

How can the model be improved?

OBTAINING MORE QUANTITATIVE AND QUALITATIVE DATA



- Players outside the Premier League
- Additional quantitative statistics
- Research on player's influence outside the game (i.e. marketability)





THANKS!

Any questions?

You can find me at davideweon@gmail.com