

Final Report

Hongye Xu

2019/5/5

1 Introduction

1.1 Background

I have always felt that the NBA has the best data storage in the sport filed. In the beginning, I wanted to analyze the performance of the players by scrapping the data from the official NBA.stat website. However, since the NBA.stat table is in javascript format, and the official has canceled all the existing official APIs, no possible R-based crawler method has been found after the effort. Therefore, I chose an alternative, which is the basketball-reference website. This report is based on two data sources on the basketball-reference. My goal is to predict the player's salary for next season based on player performance this season.

1.2 Glossary

Abbreviation	Explanation
Pos	Position
Age	Age of Player at the start of February 1st of that season
Tm	Team
G	Games
GS	Games Started
MP	Minutes Played Per Game
FG	Field Goals Per Game
FGA	Field Goal Attempts Per Game
FG%	Field Goal Percentage
3P	3-Point Field Goals Per Game
3PA	3-Point Field Goal Attempts Per Game
3P%	FG% on 3-Pt FGAs.
2P	2-Point Field Goals Per Game

2PA	2-Point Field Goal Attempts Per Game
eFG%	Effective Field Goal Percentage
FT	Free Throws Per Game
FTA	Free Throw Attempts Per Game
FT%	Free Throw Percentage
ORB	Offensive Rebounds Per Game
DRB	Defensive Rebounds Per Game
TRB	Total Rebounds Per Game
AST	Assists Per Game
STL	Steals Per Game
BLK	Blocks Per Game
TOV	Turnovers Per Game
PF	Personal Fouls Per Game
PTS	Points Per Game

Github Link

<https://github.com/szxuhongye/NBA-Player-Salary-Prediction.git> (<https://github.com/szxuhongye/NBA-Player-Salary-Prediction.git>)

2 Preparation

2.1 Required Packages

```
library(rvest)
library(magrittr)
library(tibble)
library(dplyr)
library(stringr)
library(data.table)
library(corrplot)
library(GGally)
library(tidyverse)
library(PerformanceAnalytics)
library(plotly)
```

2.2 Data Scraping and Cleaning

2.2.1 Players' Regular Season Data

```
#NBA Season18-19 Players stat(Regular Season)
url<- "https://www.basketball-reference.com/leagues/NBA_2019_per_game.html"
player_season_v1 <- url %>% read_html()%>%
  html_nodes(xpath = '//*[@id="per_game_stats"]')%>%
  html_table()
```

```
# remove the rank column and row number
player_season_v2 <- player_season_v1[[1]]%>%select(-Rk)
player_season_v3 <-player_season_v2[- grep("Player", player_season_v2$Player),]
# make some columns numeric
name <- c("Age","G","GS","MP","FG","FGA","FG%","3P","3PA","3P%","2P","2PA","2P%","eFG%","FT","FTA","FT%","ORB","DRB","TRB","AST","STL","BLK","TOV","PF","PTS")
player_season_v3[name] <- sapply(player_season_v3[name],as.numeric)
rownames(player_season_v3) <- NULL

# There will be multiple rows of data for players transferred during the season. We only keep the one with the largest number of games played(which is the stat of this player throughout the season).
player_season_tidy <- player_season_v3 %>% group_by(Player)%>%
  mutate(rank = min_rank(desc(G))) %>%
  filter(rank == 1) %>%
  select(-rank)
# No Scale data(for data visulization)
player_season_tidy <- player_season_tidy %>% filter(!is.na(`3P%`) & !is.na(`FT%`)& !is.na(`2P%`)) %>% as.data.frame(.)
head(player_season_tidy)
```

```
##      Player Pos Age  Tm  G GS   MP  FG  FGA  FG%  3P 3PA   3P%  2P
## 1 Alex Abrines SG  25 OKC 31  2 19.0 1.8  5.1 0.357 1.3 4.1 0.323 0.5
## 2 Quincy Acy PF  28 PHO 10  0 12.3 0.4  1.8 0.222 0.2 1.5 0.133 0.2
## 3 Jaylen Adams PG  22 ATL 34  1 12.6 1.1  3.2 0.345 0.7 2.2 0.338 0.4
## 4 Steven Adams C  25 OKC 80 80 33.4 6.0 10.1 0.595 0.0 0.0 0.000 6.0
## 5 Bam Adebayo C  21 MIA 82 28 23.3 3.4  5.9 0.576 0.0 0.2 0.200 3.4
## 6 Deng Adel SF  21 CLE 19  3 10.2 0.6  1.9 0.306 0.3 1.2 0.261 0.3
##      2PA  2P%  eFG%  FT FTA  FT% ORB DRB TRB AST STL BLK TOV  PF  PTS
## 1  1.0 0.500 0.487 0.4 0.4 0.923 0.2 1.4 1.5 0.6 0.5 0.2 0.5 1.7  5.3
## 2  0.3 0.667 0.278 0.7 1.0 0.700 0.3 2.2 2.5 0.8 0.1 0.4 0.4 2.4  1.7
## 3  1.1 0.361 0.459 0.2 0.3 0.778 0.3 1.4 1.8 1.9 0.4 0.1 0.8 1.3  3.2
## 4 10.1 0.596 0.595 1.8 3.7 0.500 4.9 4.6 9.5 1.6 1.5 1.0 1.7 2.6 13.9
## 5  5.7 0.588 0.579 2.0 2.8 0.735 2.0 5.3 7.3 2.2 0.9 0.8 1.5 2.5  8.9
## 6  0.7 0.385 0.389 0.2 0.2 1.000 0.2 0.8 1.0 0.3 0.1 0.2 0.3 0.7  1.7
```

2.2.2 Scale

Considering that regression analysis is mainly used in this report, i try to scale some features.

```
#Here i use the Player column as the rowname since the scale function need the whole
matrix features to be numeric
scale <- player_season_tidy %>% select(Player ,Age,MP,`2P%`,`3P%`,`FT%`,TRB:PTS)
rownames(scale)<-scale[,1]
scale1 <- scale[,-1]%>% as.matrix(.)%>%
  scale(.) %>%
  as.data.frame(.)
head(scale1)
```

```
##           Age           MP           2P%           3P%           FT%
## Alex Abrines -0.2348656 -0.1678429 -0.05111731  0.1079674  1.30497350
## Quincy Acy   0.4772268 -0.9471834  2.01348589 -1.5619660 -0.28148044
## Jaylen Adams -0.9469579 -0.9122876 -1.76955950  0.2398043  0.27342273
## Steven Adams -0.2348656  1.5071577  1.13572046 -2.7309194 -1.70430908
## Bam Adebayo  -1.1843221  0.3323309  1.03681731 -0.9730947 -0.03248542
## Deng Adel    -1.1843221 -1.1914543 -1.47285006 -0.4369582  1.85276253
##           TRB           AST           STL           BLK           TOV
## Alex Abrines -0.9119870 -0.81732136 -0.3701968 -0.49747590 -0.7975707
## Quincy Acy   -0.4970106 -0.70641502 -1.3498261  0.02415998 -0.9238106
## Jaylen Adams -0.7874941 -0.09643014 -0.6151041 -0.75829384 -0.4188509
## Steven Adams  2.4078238 -0.26278966  2.0788766  1.58906762  0.7173087
## Bam Adebayo  1.4948758  0.06992937  0.6094326  1.06743174  0.4648288
## Deng Adel    -1.1194751 -0.98368087 -1.3498261 -0.49747590 -1.0500506
##           PF           PTS
## Alex Abrines -0.1395071 -0.64209057
## Quincy Acy   0.7994827 -1.23613639
## Jaylen Adams -0.6760726 -0.98861730
## Steven Adams  1.0677655  0.77701887
## Bam Adebayo  0.9336241 -0.04804476
## Deng Adel    -1.4809210 -1.23613639
```

2.2.3 Players' Salaries

```
# Players' salaries from season 18-19
url1 <- "https://www.basketball-reference.com/contracts/players.html"
salaries <- url1 %>% read_html()%>%
  html_nodes(xpath = '//*[@id="player-contracts"]')%>%
  html_table()
salaries_v2 <- salaries[[1]]
colnames(salaries_v2) <- NULL
names(salaries_v2) <- as.character(unlist(salaries_v2[1,]))
salaries_v2 <- salaries_v2[-1,] %>%
  select(-Rk)
rownames(salaries_v2) <- NULL
head(salaries_v2)
```

```
##           Player Tm      2018-19      2019-20      2020-21      2021-22
## 1      Stephen Curry GSW $37,457,154 $40,231,758 $43,006,362 $45,780,966
## 2      Chris Paul HOU $35,654,150 $38,506,482 $41,358,814 $44,211,146
## 3 Russell Westbrook OKC $35,654,150 $38,178,000 $41,006,000 $43,848,000
## 4      LeBron James LAL $35,654,150 $37,436,858 $39,219,565 $41,002,273
## 5      Blake Griffin DET $32,088,932 $34,234,964 $36,595,996 $38,957,028
## 6      Gordon Hayward BOS $31,214,295 $32,700,690 $34,187,085
##           2022-23 2023-24 Signed Using    Guaranteed
## 1                                     Bird Rights $166,476,240
## 2                                     $159,730,592
## 3 $46,662,000                      Bird Rights $158,686,150
## 4                                     $113,310,573
## 5                                     Bird Rights $102,919,892
## 6                                     Cap space  $63,914,985
```

```
# Change 2018-19 salaries to be numeric data
salaries_v2$`2018-19` <- salaries_v2$`2018-19` %>%
  str_replace_all(., "\\,", "") %>%
  str_replace_all(., "\\$", "") %>%
  as.numeric(.)
```

```
## Warning in function_list[[k]](value): NAs introduced by coercion
```

```
# Delete rows containing missing values (due to duplicate headers)
salaries_v2 <- salaries_v2[- grep("Player", player_season_v2$Player),]
salaries_v3 <- na.omit(salaries_v2)
#remove duplicated row(only keep the highest one)
salaries_v4 <- salaries_v3 %>% group_by(Player) %>%
  mutate(rank = min_rank(desc(`2018-19`))) %>%
  filter(rank == 1) %>%
  select(-rank)
head(salaries_v4)
```

```
## # A tibble: 6 x 10
## # Groups:   Player [6]
##   Player Tm      `2018-19` `2019-20` `2020-21` `2021-22` `2022-23` `2023-24`
##   <chr> <chr>      <dbl> <chr>      <chr>      <chr>      <chr>      <chr>
## 1 Steph... GSW      37457154 $40,231,... $43,006,... $45,780,... ""         ""
## 2 Chris... HOU      35654150 $38,506,... $41,358,... $44,211,... ""         ""
## 3 Russe... OKC      35654150 $38,178,... $41,006,... $43,848,... $46,662,... ""
## 4 LeBro... LAL      35654150 $37,436,... $39,219,... $41,002,... ""         ""
## 5 Blake... DET      32088932 $34,234,... $36,595,... $38,957,... ""         ""
## 6 Gordo... BOS      31214295 $32,700,... $34,187,... ""         ""         ""
## # ... with 2 more variables: `Signed Using` <chr>, Guaranteed <chr>
```

```
salaries_tidy <- salaries_v4 %>%
  select(Player,Tm,`2018-19`)%>%
  as.data.frame(.)
# Following two players' salaries are not changed after transfer(So i delete them to
avoid duplication of one player after doing table merging)
salaries_tidy <- salaries_tidy[!(salaries_tidy$Player=="John Jenkins" & salaries_tidy
$Tm=="NYK"),]
salaries_tidy <- salaries_tidy[!(salaries_tidy$Player=="Emanuel Terry" & salaries_tid
y$Tm=="MIA"),]
salaries_tidy %>% mutate(duplicated(Player))%>%
  filter(`duplicated(Player)`== TRUE)
```

```
## [1] Player      Tm      2018-19
## [4] duplicated(Player)
## <0 rows> (or 0-length row.names)
```

```
head(salaries_tidy)
```

```
##           Player  Tm  2018-19
## 1   Stephen Curry GSW 37457154
## 2     Chris Paul HOU 35654150
## 3 Russell Westbrook OKC 35654150
## 4   LeBron James LAL 35654150
## 5   Blake Griffin DET 32088932
## 6   Gordon Hayward BOS 31214295
```

Finally, there is no duplicate player data.

2.2.4 Merging Data

```
#non_scale data
stats_for_visualized <- merge(player_season_tidy, salaries_tidy, by.x = "Player", by.
y = "Player")
names(stats_for_visualized)[31] <- "salary18_19"
stats_for_visualization <- stats_for_visualized[-30]
head(stats_for_visualization)
```

```
##           Player Pos Age Tm.x  G  GS   MP  FG  FGA  FG%  3P 3PA  3P%  2P
## 1      Aaron Gordon  PF  23  ORL  78  78 33.8 6.0 13.4 0.449 1.6 4.4 0.349 4.5
## 2      Aaron Holiday PG  22  IND  50   0 12.9 2.1  5.2 0.401 0.9 2.5 0.339 1.2
## 3      Abdel Nader  SF  25  OKC  61   1 11.4 1.5  3.5 0.423 0.5 1.6 0.320 1.0
## 4      Al Horford   C  32  BOS  68  68 29.0 5.7 10.6 0.535 1.1 3.0 0.360 4.6
## 5 Al-Farouq Aminu  PF  28  POR  81  81 28.3 3.2  7.3 0.433 1.2 3.5 0.343 2.0
## 6      Alec Burks  SG  27  TOT  64  24 21.5 3.0  7.4 0.405 1.0 2.6 0.363 2.0
##  2PA  2P%  eFG%  FT  FTA   FT% ORB DRB TRB AST STL BLK TOV  PF  PTS
## 1 9.0 0.499 0.507 2.4 3.2 0.731 1.7 5.7 7.4 3.7 0.7 0.7 2.1 2.2 16.0
## 2 2.7 0.459 0.483 0.8 1.0 0.820 0.1 1.2 1.3 1.7 0.4 0.3 0.8 1.4  5.9
## 3 1.9 0.513 0.498 0.4 0.6 0.750 0.2 1.7 1.9 0.3 0.3 0.2 0.4 1.1  4.0
## 4 7.6 0.604 0.586 1.1 1.4 0.821 1.8 5.0 6.7 4.2 0.9 1.3 1.5 1.9 13.6
## 5 3.9 0.514 0.514 1.9 2.1 0.867 1.4 6.1 7.5 1.3 0.8 0.4 0.9 1.8  9.4
## 6 4.8 0.428 0.469 1.8 2.2 0.823 0.5 3.2 3.7 2.0 0.6 0.3 1.0 1.4  8.8
##  salary18_19
## 1      21590909
## 2      1911960
## 3      1378242
## 4      28928710
## 5      6957105
## 6      11536515
```

```
#scale data
salaries1 <- salaries_tidy
rownames(salaries1) <- salaries1[,1]
salaries2 <- salaries1[,-1]
stats_scale <- merge(scale1, salaries2, by="row.names")
names(stats_scale)[15] <- "salary18_19"
stats_scale <- stats_scale[-14]
head(stats_scale)
```



```
##          Row.names      Age      MP      2P%      3P%      FT%
## 1   Aaron Gordon -0.7095938  1.5536855 -0.0634802  0.33648464 -0.06094200
## 2   Aaron Holiday -0.9469579 -0.8773917 -0.5579959  0.24859341  0.57221675
## 3   Abdel Nader -0.2348656 -1.0518710  0.1096003  0.08160007  0.07422672
## 4   Al Horford  1.4266833  0.9953519  1.2346236  0.43316500  0.57933089
## 5 Al-Farouq Aminu  0.4772268  0.9139283  0.1219632  0.28374990  0.90658148
## 6   Alec Burks  0.2398627  0.1229558 -0.9412456  0.45953237  0.59355918
##          TRB      AST      STL      BLK      TOV      PF
## 1  1.5363734745  0.90172692  0.1196179  0.80661380  1.2222684  0.531199926
## 2 -0.9949822302 -0.20733649 -0.6151041 -0.23665796 -0.4188509 -0.541931237
## 3 -0.7459964232 -0.98368087 -0.8600115 -0.49747590 -0.9238106 -0.944355424
## 4  1.2458900330  1.17899277  0.6094326  2.37152144  0.4648288  0.128775740
## 5  1.5778711090 -0.42914917  0.3645252  0.02415998 -0.2926109 -0.005365656
## 6  0.0009609979 -0.04097697 -0.1252894 -0.23665796 -0.1663710 -0.541931237
##          PTS salary18_19
## 1  1.12354560      21590909
## 2 -0.54308294      1911960
## 3 -0.85660712      1378242
## 4  0.72751506      28928710
## 5  0.03446161      6957105
## 6 -0.06454603      11536515
```

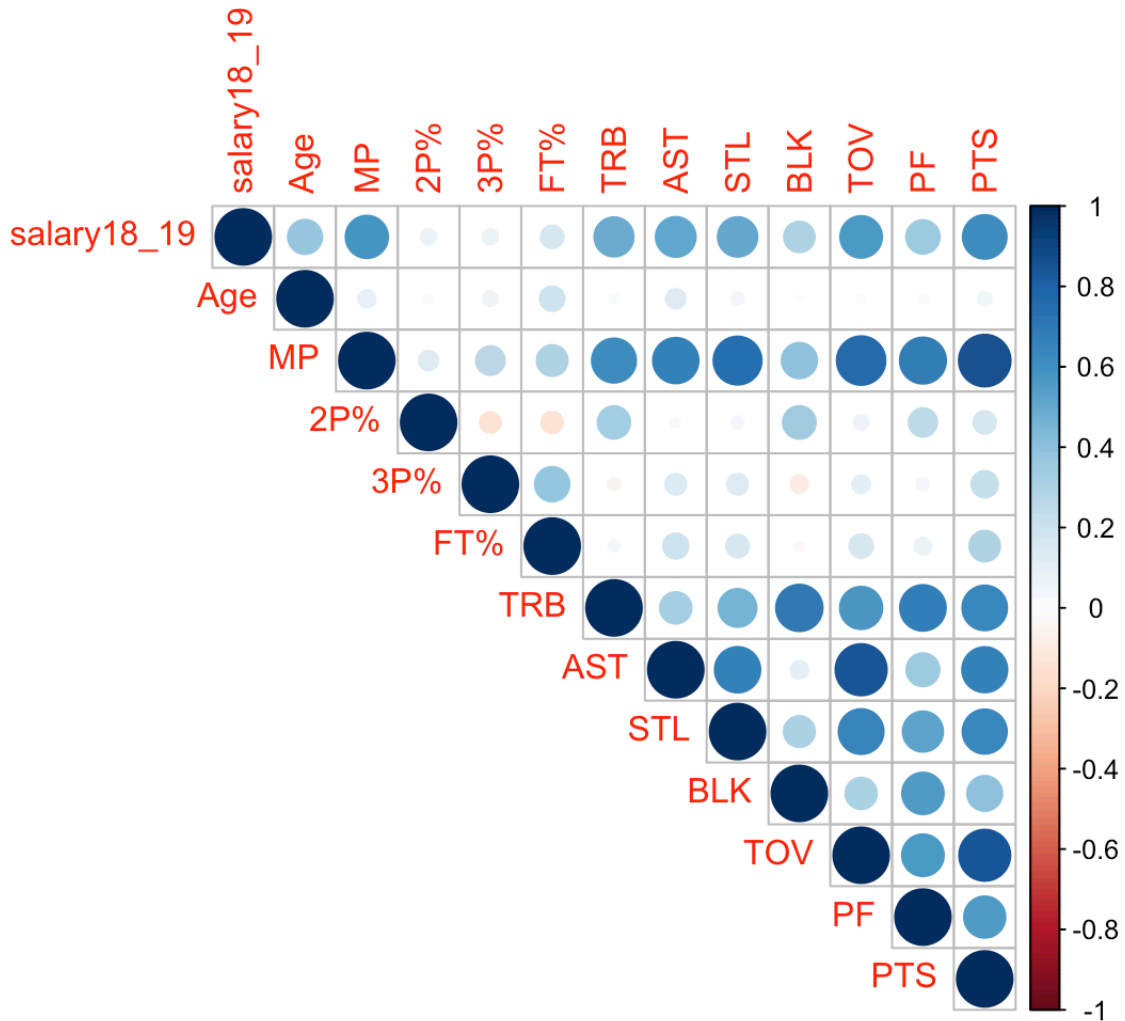
2.2.5 Save No_scale Data Into CSV

```
write.csv(stats_for_visualization,'18-19players_stat.csv')
```

3 Correlation Check

3.1 Frist Check

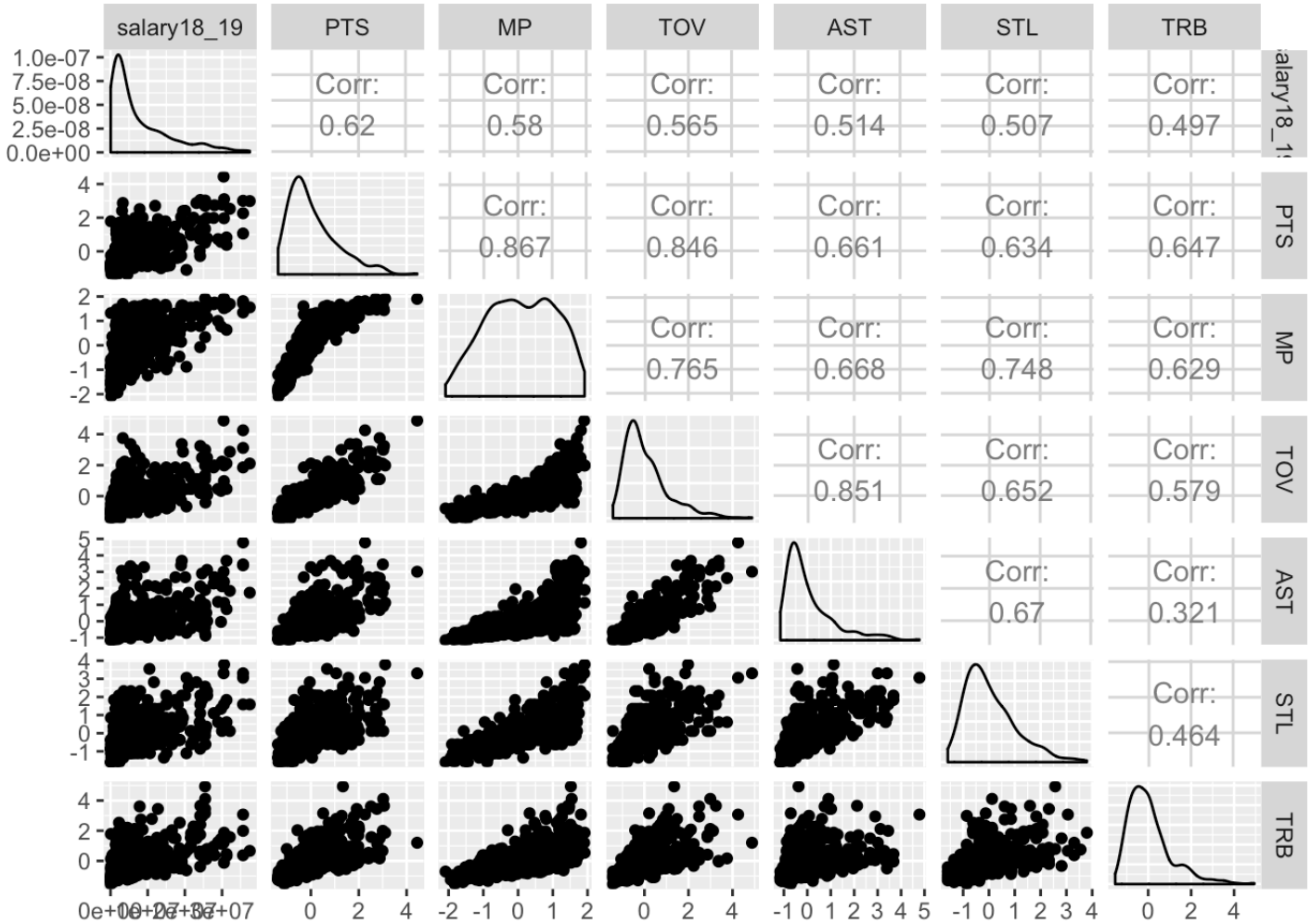
```
corrplot(cor(stats_scale %>%
  select(salary18_19, Age:PTS, contains("%")),
  use = "complete.obs"),
  method = "circle", type = "upper")
```



The features that have strong correlation with salary are:PTS,TOV,STL,AST,TRB and MP. Besides, MP is strongly correlated with multiple features and may have multiple collinearities(This is in line with our common sense. The more time we play, the better the data will be). What I didn't expect was that the correlation between field goal and salary was not high, that is to say, the output of players influenced the salary of players more than efficiency.

3.2 Second Check

```
stats_salary_cor <-
  stats_scale %>%
  select(salary18_19,PTS, MP, TOV, AST, STL, TRB)
ggpairs(stats_salary_cor)
```



```
cor(stats_salary_cor)[,"salary18_19"]
```

```
## salary18_19      PTS      MP      TOV      AST      STL
## 1.0000000  0.6198192  0.5803967  0.5645525  0.5142283  0.5066299
##          TRB
## 0.4972563
```

Correlation strength is: PTS > MP > TOV > AST > STL > TRB There's also one thing that surprises me: the number of players' turnovers is positively correlated with their salaries. I mean, generally speaking, assuming that a player's turnover rate is constant, the total number of turnovers will increase as his minutes played increases, and important players will have higher minutes played and higher salaries.

4 Data Visualization

4.1 Interactive Plot

```
names(stats_for_visualization)[4] <- "Team"
plot_ly(data = stats_for_visualization, x = ~salary18_19, y = ~PTS, color = ~Team,
        hoverinfo = "text",
        text = ~paste("Player: ", Player,
                      "<br>Salary: ", format(salary18_19, big.mark = ","), "$",
                      "<br>PTS: ", round(PTS, digits = 3),
                      "<br>Team: ", Team)) %>%

layout(
  title = "Salary vs Points Per Game",
  xaxis = list(title = "Salary USD"),
  yaxis = list(title = "Points per Game")
)
```

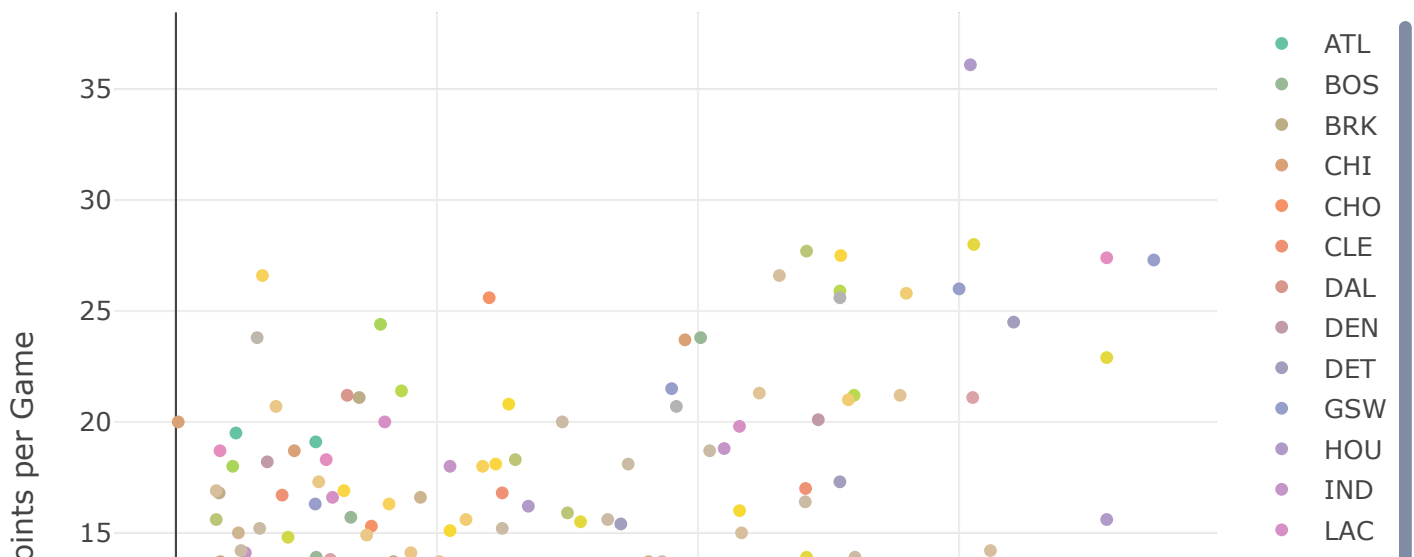
```
## No trace type specified:
##   Based on info supplied, a 'scatter' trace seems appropriate.
##   Read more about this trace type -> https://plot.ly/r/reference/#scatter
```

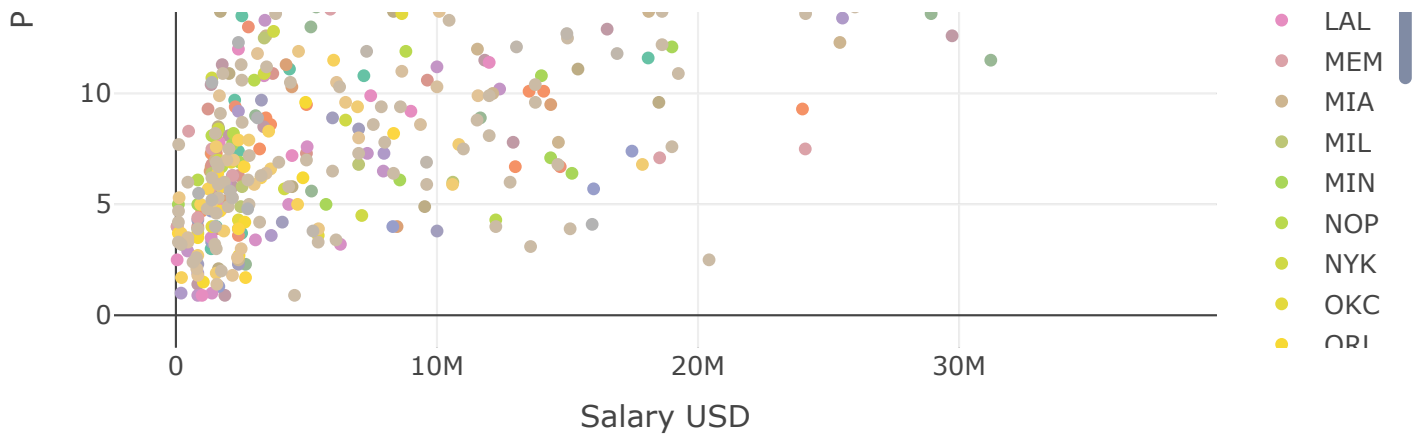
```
## No scatter mode specified:
##   Setting the mode to markers
##   Read more about this attribute -> https://plot.ly/r/reference/#scatter-mode
```

```
## Warning in RColorBrewer::brewer.pal(N, "Set2"): n too large, allowed maximum for p
alette Set2 is 8
## Returning the palette you asked for with that many colors

## Warning in RColorBrewer::brewer.pal(N, "Set2"): n too large, allowed maximum for p
alette Set2 is 8
## Returning the palette you asked for with that many colors
```

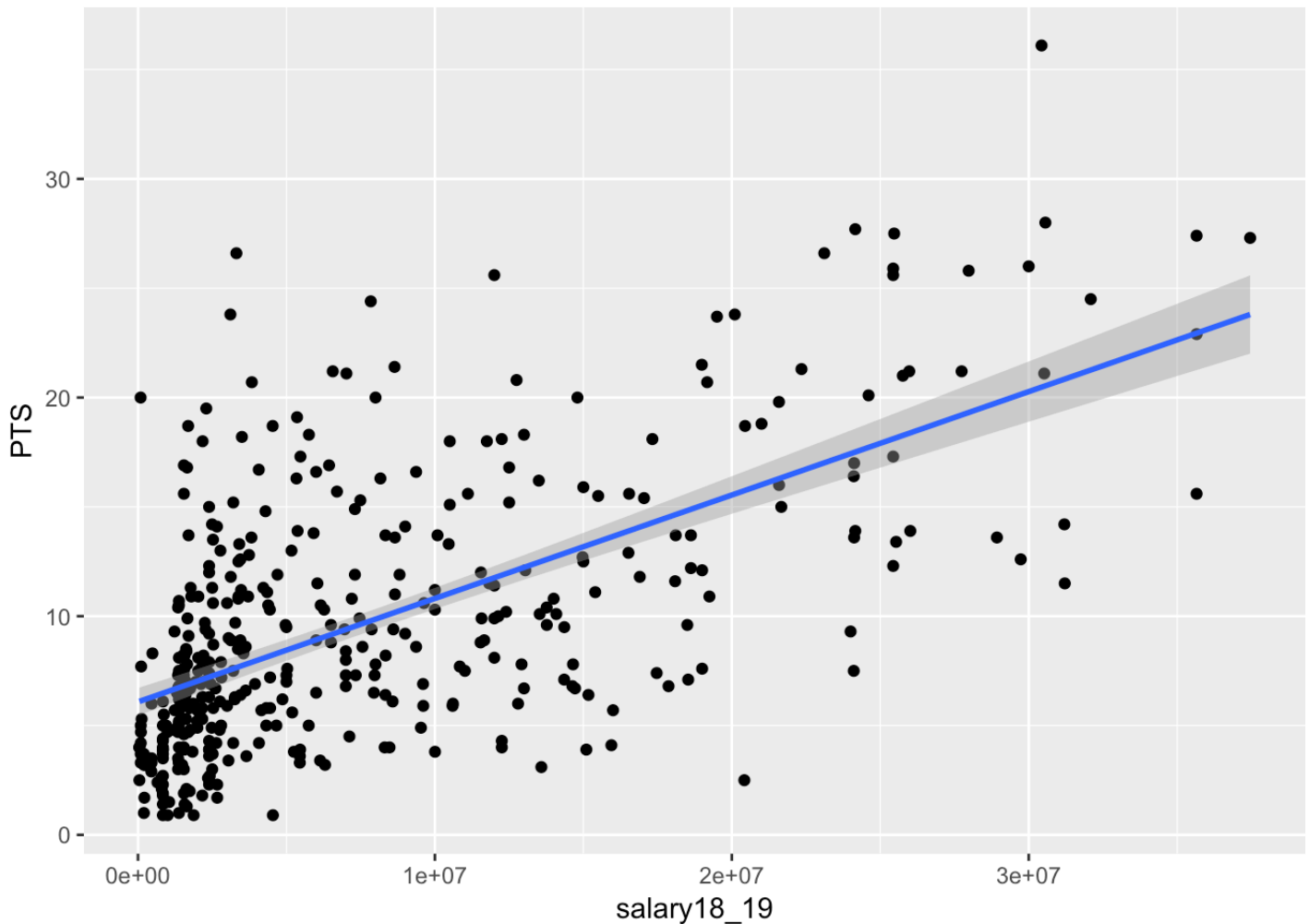
Salary vs Points Per Game





4.2 Scatter Plot With Regression Line

```
stats_for_visualization %>%
  ggplot(aes(x = salary18_19, y = PTS)) +
  geom_point() +
  geom_smooth(method = "lm")
```



Under the simple linear model, we can understand that the fitted curve represents the average level of the league, and the player below the curve performs worse than the expected performance corresponding to the salary. We can check their name by hovering on the points in the interactive plot. It includes a lot of All-Star players, such as Chris Paul, Kyle Lowry, Al Horford, Gordon Haywood(The Celtics are unlucky) and etc. However, it only considers the scoring feature, and does not fully reflect the players'influence on the field.

5 Multiple Regression

```
regression <- stats_scale %>% select(salary18_19,PTS, MP, TOV, AST, STL, TRB)
lm(salary18_19~ PTS + MP + TOV + AST + STL + TRB, data =regression)
```

```
##
## Call:
## lm(formula = salary18_19 ~ PTS + MP + TOV + AST + STL + TRB,
##     data = regression)
##
## Coefficients:
## (Intercept)          PTS             MP             TOV             AST
##      7114340      3626578      -546186      -2022044      2571555
##           STL             TRB
##      833962      1888579
```

From here, we can see that points per game is the most significant feature of positive impact, while turnovers per game is the most significant feature of negative impact.

5.1 Player 's Importance And Incautiousness

Here we make two definitions that a player is “important” if his minutes played is above average and is “incautious” if his turnover per game is above average.

```
avg.minutes <- mean(regression$MP)
avg.turnover <- mean(regression$TOV)
regression$Importance<- as.factor(ifelse(regression$MP >= avg.minutes, "Yes", "No"))
regression$Incautiousness <- as.factor(ifelse(regression$TOV >= avg.turnover, "Yes",
"No"))
head(regression)
```

##	salary18_19	PTS	MP	TOV	AST	STL
## 1	21590909	1.12354560	1.5536855	1.2222684	0.90172692	0.1196179
## 2	1911960	-0.54308294	-0.8773917	-0.4188509	-0.20733649	-0.6151041
## 3	1378242	-0.85660712	-1.0518710	-0.9238106	-0.98368087	-0.8600115
## 4	28928710	0.72751506	0.9953519	0.4648288	1.17899277	0.6094326
## 5	6957105	0.03446161	0.9139283	-0.2926109	-0.42914917	0.3645252
## 6	11536515	-0.06454603	0.1229558	-0.1663710	-0.04097697	-0.1252894

##	TRB	Importance	Incautiousness
## 1	1.5363734745	Yes	Yes
## 2	-0.9949822302	No	No
## 3	-0.7459964232	No	No
## 4	1.2458900330	Yes	Yes
## 5	1.5778711090	Yes	No
## 6	0.0009609979	Yes	No

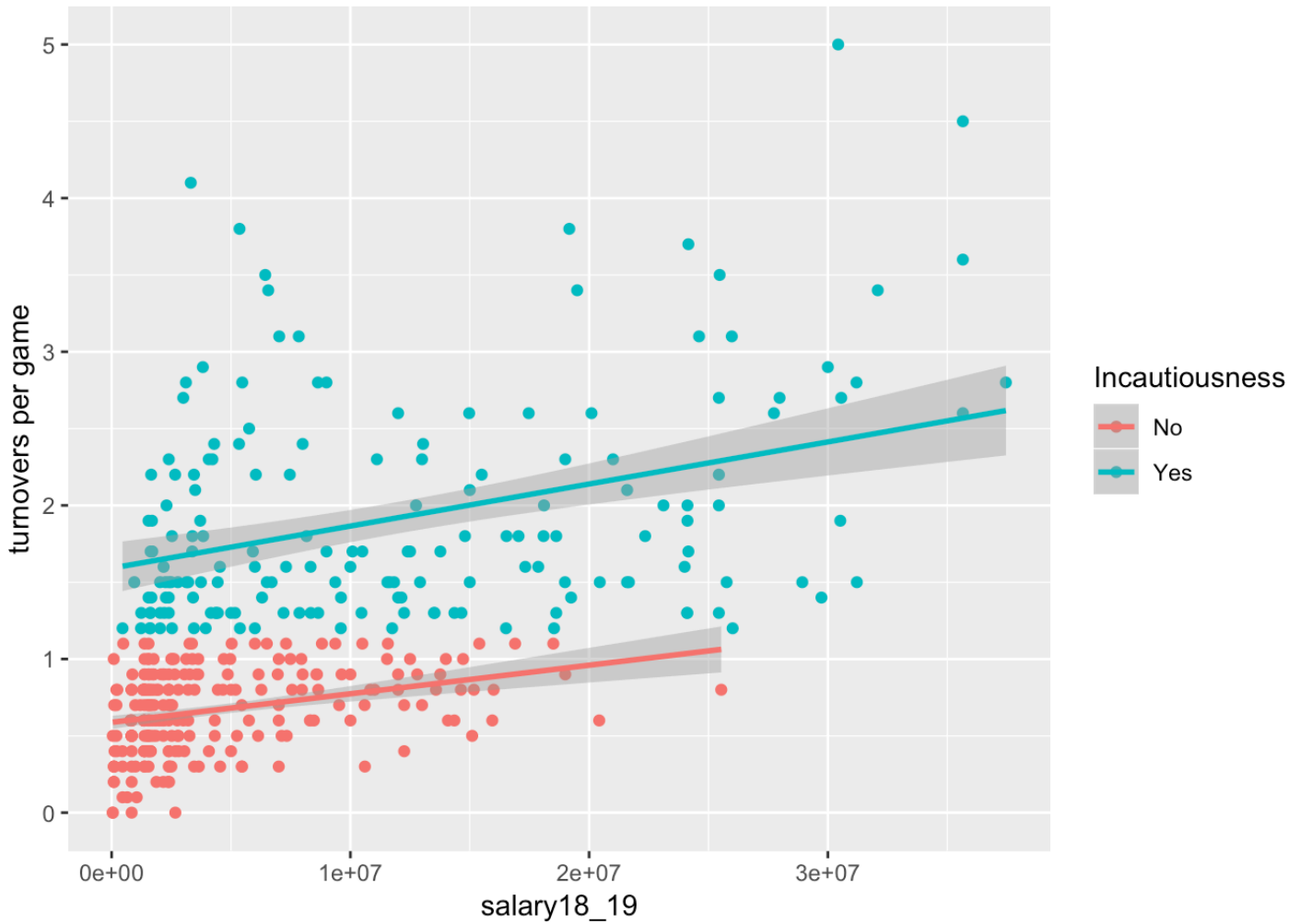
5.2 Prallel Slope Model

5.2.1 Incautiousness Comparision

```

regression %>%
  ggplot(aes(x = salary18_19, y = (TOV * var(player_season_tidy$TOV)^(1/2) + mean(pla
  yer_season_tidy$TOV)), colour = Incautiousness)) +
  geom_point() +
  geom_smooth(method="lm")+
  ylab("turnovers per game")

```



It's true that players with higher salaries make more turnovers. But the tendency is weak.

```
lm(formula = salary18_19 ~ Importance * Incautiousness, data=regression)
```

```
##
## Call:
## lm(formula = salary18_19 ~ Importance * Incautiousness, data = regression)
##
## Coefficients:
##              (Intercept)              ImportanceYes
##              3275995              3754147
##      IncautiousnessYes ImportanceYes:IncautiousnessYes
##              3048670              3017297
```

This shows that when a player is important, he is paid more with fewer turnovers.

6 Conclusion

6.1 What i want to predict

As Lebron James fan, I am concerned about the new contract for the Lakers who may stay next season. Let's find them first.

```
salaries_v4 %>% filter(Tm == "LAL" & `2019-20` == "")%>%
  select(Player)
```

```
## # A tibble: 8 x 1
## # Groups:   Player [8]
##   Player
##   <chr>
## 1 Kentavious Caldwell-Pope
## 2 Rajon Rondo
## 3 Mike Muscala
## 4 Lance Stephenson
## 5 Reggie Bullock
## 6 JaVale McGee
## 7 Andre Ingram
## 8 Scott Machado
```

```
Pope <- stats_scale %>% filter(Row.names == "Kentavious Caldwell-Pope")
Bullock <- stats_scale %>% filter(Row.names == "Reggie Bullock")
Stephenson <- stats_scale %>% filter(Row.names == "Lance Stephenson")
Pope
```

```
##           Row.names      Age      MP      2P%      3P%
## 1 Kentavious Caldwell-Pope -0.2348656 0.5068101 0.4681242 0.3189064
##           FT%      TRB      AST      STL      BLK      TOV
## 1 0.9065815 -0.3310201 -0.4291492 0.6094326 -0.4974759 -0.4188509
##           PF      PTS salary18_19
## 1 -0.1395071 0.3644871      1.2e+07
```

6.2 Analysis conclusion

```
salary_prediction <- function(m, point, minutes, turn_over, assists, steals, rebounds)
{
  pre_new <- predict(m, data.frame(PTS = point, MP = minutes, TOV= turn_over, AST= as
sists, STL= steals, TRB= rebounds))
  msg <- paste( "Expected Salary: $", format(round(pre_new), big.mark = ","), sep = "
")
  print(msg)
}
model <- lm(salary18_19~ PTS + MP + TOV + AST + STL + TRB, data =regression)
salary_prediction(model,Pope$PTS,Pope$MP,Pope$TOV,Pope$AST,Pope$STL,Pope$TRB)
```

```
## [1] "Expected Salary: $7,785,809"
```

```
salary_prediction(model,Bullock$PTS,Bullock$MP,Bullock$TOV,Bullock$AST,Bullock$STL,Bu
llock$TRB)
```

```
## [1] "Expected Salary: $7,126,513"
```

```
salary_prediction(model,Stephenson$PTS,Stephenson$MP,Stephenson$TOV,Stephenson$AST,St
ephenson$STL,Stephenson$TRB)
```

```
## [1] "Expected Salary: $5,286,590"
```

So Salaries for Pope, Bullock and Stephenson for next season are \$7,785,809, \$7,126,513 and \$5,286,590