

Best teams on fifa20

Naga Santhosh Kartheek Karnati

3/25/2020

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
library(ggplot2)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##   filter, lag
```

```
## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union
```

```
library(tidyr)
library(stringr)
library(data.table)
```

```
##
## Attaching package: 'data.table'
```

```
## The following objects are masked from 'package:dplyr':
##
##   between, first, last
```

```
library(rio)
```

```
## Warning: package 'rio' was built under R version 3.6.2
```

```
library(modelr)
library(purrr)
```

```
##
## Attaching package: 'purrr'
```

```
## The following object is masked from 'package:data.table':  
##  
##      transpose
```

```
fif20 <- fread('D:/NEU/Spring 2020/SML/Project/Datasets/players_20.csv')  
class(fif20)
```

```
## [1] "data.table" "data.frame"
```

```
#View(fif20)  
#fifa20 as a tibble  
fif20 <- as_tibble(fif20)
```

```
#we know the best team on fifa20 ie fifa world 11  
#we also know the best team of players under23 or 23 on fifa20  
#Plotting them on a football pitch  
library(jpeg)  
library(png)  
img <- readPNG("D:/NEU/Spring 2020/SML/Project/footballpitch1.png")
```

```
formation4231 <- data.frame(team_position = as.factor(c("GK","LB","LCB","RCB","RB",  
                                                       "RCM","CDM","CAM","RW","LW","ST")),  
                           X = c(5,17,12.5,12.5,17,33,33,47,53,53,60),  
                           Y = c(50,83,61,38,16,30,70,50,22,78,50)  
                           )
```

```
fifa20_world11 <- c("J. Oblak","Jordi Alba","V. van Dijk","PiquÃ©","J. Kimmich",  
                  "K. De Bruyne","Neymar Jr","Sergio Busquets","L. Messi",  
                  "R. Lewandowski","Cristiano Ronaldo")
```

```
df_fifa20_world11 <- fif20 %>% filter(short_name %in% fifa20_world11)%>%  
  select(short_name, club, team_jersey_number, team_position, overall)
```

```
#Join formation4231 and df_fifa20_world11 by position:  
library(RSQL)
```

```
## Warning: package 'RSQL' was built under R version 3.6.3
```

```
library(dbplyr)
```

```
## Warning: package 'dbplyr' was built under R version 3.6.3
```

```
##  
## Attaching package: 'dbplyr'
```

```
## The following objects are masked from 'package:dplyr':  
##  
##      ident, sql
```

```
data1 <- full_join(df_fifa20_world11, formation4231)
```

```
## Joining, by = "team_position"
```

```
## Warning: Column `team_position` joining character vector and factor, coercing  
## into character vector
```

```
#data1 <- cbind(df_fifa20_world11, formation4231 %>% select(-Position))
```

```
library(ggpubr)
```

```
## Warning: package 'ggpubr' was built under R version 3.6.3
```

```
## Loading required package: magrittr
```

```
##
```

```
## Attaching package: 'magrittr'
```

```
## The following object is masked from 'package:purrr':
```

```
##
```

```
##      set_names
```

```
## The following object is masked from 'package:tidyr':
```

```
##
```

```
##      extract
```

```
options(repr.plot.width = 16, repr.plot.height = 8)
```

```
#ggplot(data1, aes(X, Y, label = paste0(team_jersey_number, "-", short_name)))+  
#   geom_point()+  
#   geom_text(aes(label=paste0(team_jersey_number, "-", short_name)), hjust=0, vjust=2)+  
#   background_image(img)
```

```
ggplot(data1, aes(X, Y, label = paste0(team_jersey_number, "-", short_name)))+  
  background_image(img)+  
  geom_text(size = 4, angle = 9, color = "khaki", hjust=0.5, vjust=0.5)+  
  theme_void()+  
  theme(panel.background = element_rect(fill = "forestgreen"))+  
  xlim(0,70)+  
  ggsave("wl1fifa20.jpeg",  
         path="D:/NEU/Spring 2020/SML/Project/Plots/")
```

```
## Saving 6.5 x 4.5 in image
```



```
#similarly, world 11 aged 23 or less:
formation23_4231 <- data.frame(team_position = as.factor(c("GK", "LB", "LCB", "RCB", "RB",
                                                         "LCM", "RDM", "CAM", "LW", "RW", "RF")),
                              X = c(5, 17, 12.5, 12.5, 17, 33, 33, 47, 53, 53, 60),
                              Y = c(50, 83, 61, 38, 16, 30, 70, 50, 22, 78, 50)
                              )

fifa20_world11_23 <- c("G. Donnarumma", "Grimaldo", "L. Hernández", "N. Sané",
                     "T. Alexander-Arnold", "F. de Jong", "L. Torreira", "D. Alli",
                     "K. Coman", "K. Mbappé", "K. Havertz")

df_fifa20_world11_23 <- fif20 %>% filter(short_name %in% fifa20_world11_23)%>%
  select(short_name, club, team_jersey_number, team_position, overall)

data2 <- full_join(df_fifa20_world11_23, formation23_4231)

## Joining, by = "team_position"

## Warning: Column `team_position` joining character vector and factor, coercing
## into character vector

options(repr.plot.width = 16, repr.plot.height = 8)

ggplot(data2, aes(X, Y, label = paste0(team_jersey_number, "-", short_name)))+
  background_image(img)+
```

```

geom_text(size = 4, angle = 9, color = "khaki", hjust=0.5, vjust=0.5)+
theme_void()+
theme(panel.background = element_rect(fill = "forestgreen"))+
xlim(0,70)+
ggsave("w11_23_fifa20.jpeg",
      path="D:/NEU/Spring 2020/SML/Project/Plots/")

```

Saving 6.5 x 4.5 in image

Warning: Removed 1 rows containing missing values (geom_text).

Warning: Removed 1 rows containing missing values (geom_text).

