## referees-cpmr

## Charles Adedotun

## 2022-04-25

```
## Installing package into '/Users/runner/work/_temp/Library'
## (as 'lib' is unspecified)
##
## The downloaded binary packages are in
## /var/folders/24/8k48j16d249_n_qfxws16xvm0000gn/T//RtmpQicC9V/downloaded_packages
## -- Attaching packages ------ tidyverse 1.3.1 --
## v ggplot2 3.3.5 v purrr 0.3.4

## v tibble 3.1.6 v dplyr 1.0.8

## v tidyr 1.2.0 v stringr 1.4.0

## v readr 2.1.2 v forcats 0.5.1
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag() masks stats::lag()
raw_data <- read.csv("../scraped-data/referees.csv")</pre>
raw_data <- as_tibble(raw_data)</pre>
head(raw_data)
## # A tibble: 6 x 4
## Referee Matches Red.cards Yellow.cards
   <chr>
                  <int> <int> <int>
## 1 Martin Atkinson 23 2
## 2 Craig Pawson 23 2
                                              56
                                2
4
2
                    23
23
                                             102
## 3 Anthony Taylor
                                              89
## 4 Paul Tierney
                                               94
## 5 Jonathan Moss
                       22
                                   4
                                               52
## 6 Michael Oliver
                        22
raw_columns <- raw_data %>% select(Referee, Matches, Yellow.cards)
head(raw_columns)
## # A tibble: 6 x 3
## Referee Matches Yellow.cards
## <chr>
                     <int> <int>
```

```
102
## 2 Craig Pawson
                          23
## 3 Anthony Taylor
                          23
                                       89
## 4 Paul Tierney
                          23
                                        94
## 5 Jonathan Moss
                          22
                                        52
## 6 Michael Oliver
                          22
                                        66
new_table <- raw_columns %>% mutate(yellow_card_ratio = Yellow.cards / Matches)
new_table <- new_table[order(-new_table$yellow_card_ratio),]</pre>
head(new_table)
```

56

```
## # A tibble: 6 x 4
    Referee
                      Matches Yellow.cards yellow_card_ratio
##
     <chr>
                                     <int>
                        <int>
                                                       <dbl>
## 1 Michael Salisbury
                                                        5.5
                            2
                                        11
## 2 John Brooks
                            3
                                                        5.33
                                        16
## 3 David Coote
                                                        4.74
                           19
                                        90
## 4 Peter Bankes
                                        51
                                                        4.64
                           11
## 5 Craig Pawson
                           23
                                       102
                                                        4.43
## 6 Kevin Friend
                           15
                                        63
                                                        4.2
```

23

```
data <- new_table %>% select(Referee, yellow_card_ratio)
head(data)
```

```
## # A tibble: 6 x 2
## Referee
                      yellow_card_ratio
##
    <chr>
                                  <dbl>
## 1 Michael Salisbury
                                  5.5
## 2 John Brooks
                                  5.33
## 3 David Coote
                                  4.74
## 4 Peter Bankes
                                  4.64
## 5 Craig Pawson
                                  4.43
## 6 Kevin Friend
                                  4.2
```

## 1 Martin Atkinson

```
write.csv(data, "../cleaned-data/referees-cpmr.csv", row.names = FALSE)
```