Example of Faceted KDP by Player for Each Team with Consistent X-axes Across Figures

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Install Packages (if needed)

This example uses `tibble`, `dplyr`, `ggplot2` and a couple other `tidyverse` packages. It also uses the `ggridges` package that extends ggplot2. If you have never installed the `tidyverse`, uncomment and run the next cell. Else continue to the next section.

```
# renv::restore()
```

Setup Environment

This line imports the packages you'll need later.

```
library(tibble)
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
```

```r
library(stringr)
library(ggplot2)
library(ggridges)
```

Simulate Data

Here we simulate three seasons of fantasy points (`fpts`) for seven skill position players from each of three teams. I use 17-game seasons here for simplicity. Tried to do this in the style of what you might get from a package like `nflfastr` or `ffscrapr`. You can change the value of `fpts_max` to any number, it will be used to simulate player fantasy scores later in this block.

```r
# change to adjust the maximum possible fantasy point value
fpts_max <- 50

df <- tibble::tibble(
  # create list of player names
  player = rep(c(
    stringr::str_c("Player", " ", LETTERS[1:7]),
    stringr::str_c("Player", " ", LETTERS[20:26])
  ), 3 * 17),
  # Assign Players A:G to NY and T:Z to LA
  team = rep(c(rep("NY", 7), rep("LA", 7)), 3 * 17),
  # years 2020 to 2022
  year = c(rep(2020, 14 * 17), rep(2021, 14 * 17), rep(2022, 14 * 17)),
  # weeks 1 to 17 for each year, all the repetition and sorting is needed to make sure eac
  week = c(rep(sort(rep(
    1:17, 14
  )), 3)),
  # used the simple assumption of a uniform distribution
  # rounded to two decimal places
  fpts = round(runif(14*3*17, min = 1, max = fpts_max), digits = 2
))
```

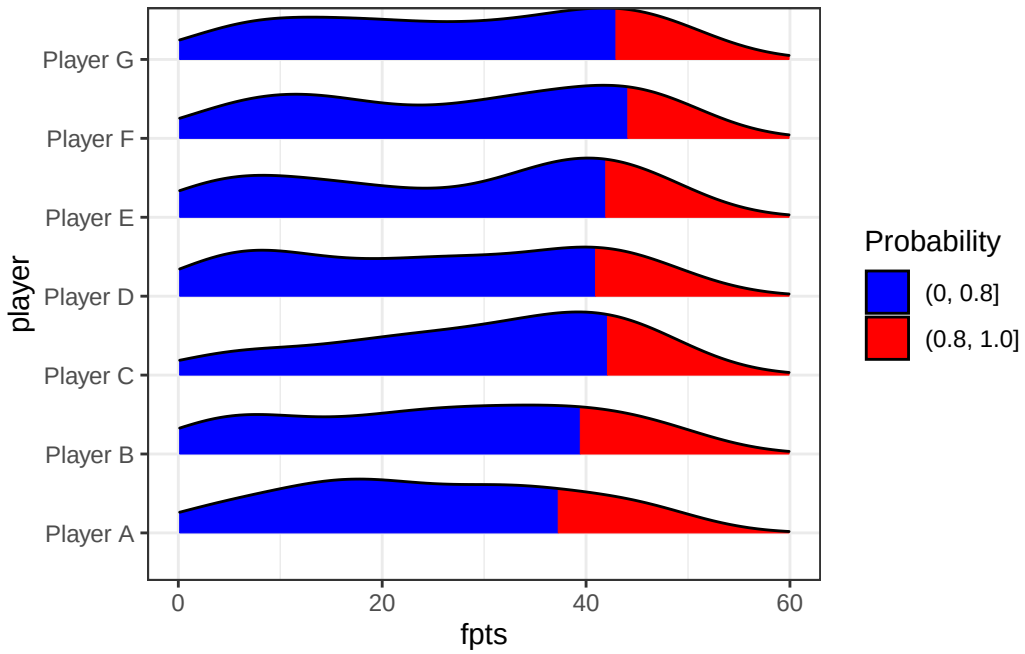
Plot Data - Method 1

Here, we get the maximum fantasy points in the `df`, and then pass it as the `max` value plus a small margin in `xlim(0, max + x)` . The `ggridges` package displays player names on the y-axis, and we visualize each team in separate plots.

```
fpts_actual_max <- max(df$fpts)

# NY plot
df %>% dplyr::filter(team == "NY") %>%
  ggplot2::ggplot(., aes(x = fpts, y = player, fill = factor(ggplot2::after_stat(quantile)
  ggridges::stat_density_ridges(
    geom = "density_ridges_gradient",
    calc_ecdf = TRUE,
    quantiles = 0.8,
    scale = 0.8) +
  ggplot2::scale_fill_manual(name = "Probability", values = c("blue", "red"), labels = c("
  # xlim controls the max on your axis for both plots since it uses the same constant in b
  ggplot2::xlim(0, fpts_actual_max + 10) +
  ggplot2::theme_bw()
```

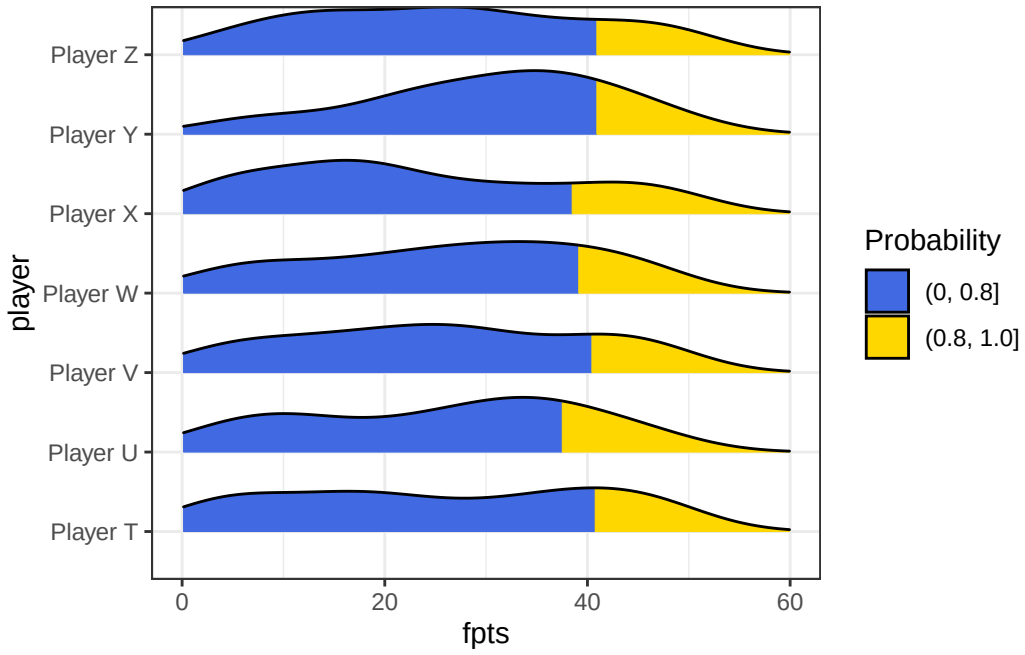
```
Picking joint bandwidth of 6.08
```




```
# LA plot
df %>% dplyr::filter(team == "LA") %>%
  ggplot2::ggplot(., aes(x = fpts, y = player, fill = factor(ggplot2::after_stat(quantile)
```

```
    ggridges::stat_density_ridges(
      geom = "density_ridges_gradient",
      calc_ecdf = TRUE,
      quantiles = 0.8,
      scale = 0.8) +
    ggplot2::scale_fill_manual(name = "Probability", values = c("royalblue", "gold"), labels
      # xlim controls the max on your axis for both plots since it uses the same constant in
    ggplot2::xlim(0, fpts_actual_max + 10) +
    ggplot2::theme_bw()
```

```
Picking joint bandwidth of 5.71
```



Plot Data - Method 2

Here we use `ggplot2`'s faceting feature, but otherwise set up the limits etc. the same way. I couldn't quite figure out how to differentially colorize the fill for each team here, so I use grayscale.

```
fpts_actual_max <- max(df$fpts)
```

```r
# plot the figure
df %>%
  ggplot2::ggplot(., aes(x = fpts, y = player, fill = factor(ggplot2::after_stat(quantile)
  ggridges::stat_density_ridges(
    geom = "density_ridges_gradient",
    calc_ecdf = TRUE,
    quantiles = 0.8,
    scale = 0.8) +
  ggplot2::scale_fill_manual(name = "Probability",
                             values = c("grey80", "grey20"), labels = c("(0, 0.8]", "(0.8,
  # xlim controls the max on your axis for both plots since it uses the same constant in b
  ggplot2::xlim(0, fpts_actual_max + 10) +
  ggplot2::facet_grid(rows = vars(team), scales = "free_y") +
  ggplot2::theme_bw()
```

```
Picking joint bandwidth of 5.71
```

```
Picking joint bandwidth of 6.08
```