DW-NOMINATE using ggjoy

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The site for the file downloaded below is https://legacy.voteview.com/dwnomin_joint_house_and_senate.htm (https://legacy.voteview.com/dwnomin_joint_house_and_senate.htm)

These plots use common space scores explained on the website.

Notice this is a legacy version of the website, and the dataset doesn't include the 114th Congress.

```
library(tidyverse)
```

```
## Loading tidyverse: ggplot2
## Loading tidyverse: tibble
## Loading tidyverse: tidyr
## Loading tidyverse: readr
## Loading tidyverse: purrr
## Loading tidyverse: dplyr
```

```
## Conflicts with tidy packages ----------------------------------------------
```

```
## filter(): dplyr, stats
## lag():    dplyr, stats
```

```
library(readr)
library(ggjoy)

colpos1 <- c(4, 6, 3, 2, 8, 5, 15, 10, 10, 10, 10, 8, 11, 5, 5, 10)
colnames <- c("congress", "icpsr", "st_code", "cd", "st_name", "party_code", "mc_name", "dim_1", "dim_2", "dim_1_
se", "dim_2_se", "dim_1_2_corr,", "log_lik", "num_votes", "num_class_err", "geo_mean_prob")
all_house <- read_fwf("ftp://k7moa.com/junkord/HL01113D21_BSSE.DAT", fwf_widths(colpos1, col_names=colnames))
```

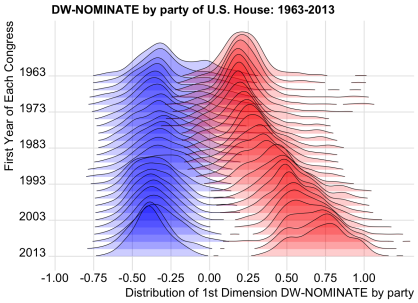
```
## Parsed with column specification:
## cols(
##   congress = col_integer(),
##   icpsr = col_integer(),
##   st_code = col_integer(),
##   cd = col_integer(),
##   st_name = col_character(),
##   party_code = col_integer(),
##   mc_name = col_character(),
##   dim_1 = col_double(),
##   dim_2 = col_double(),
##   dim_1_se = col_double(),
##   dim_2_se = col_double(),
##   `dim_1_2_corr,` = col_double(),
##   log_lik = col_double(),
##   num_votes = col_integer(),
##   num_class_err = col_integer(),
##   geo_mean_prob = col_double()
## )
```

```
all_house_88_113 <- all_house %>% filter(congress >= 88 & cd !=0 & cd != 98 & cd != 99) %>% filter(party_code ==
100 | party_code == 200) %>% arrange(desc(congress)) %>% mutate(year1 = congress * 2 + 1787) %>% arrange(desc(yea
r1))

ggplot(all_house_88_113, aes(x = dim_1, y = year1, group=year1)) +
       geom_joy(data=filter(all_house_88_113, party_code==100), scale = 7, size = 0.25, rel_min_height = 0.01, f
ill="blue", alpha=0.2) +
       geom_joy(data=filter(all_house_88_113, party_code==200), scale = 7, size = 0.25, rel_min_height = 0.01, f
ill="red", alpha=0.2) +
       theme_joy() +
       #theme(axis.text.y = element_blank()) +
       scale_x_continuous(limits=c(-1, 1.3), expand = c(0.01, 0), breaks=c(-1,-.75,-.5,-.25,0,.25,.5,.75,1)) +
       #scale_y_continuous(breaks=c(seq(2010,1970,-5))) +
       scale_y_reverse(breaks=c(seq(2013,1963,-10))) +
       ggtitle("DW-NOMINATE by party of U.S. House: 1963-2013") +
       ylab("First Year of Each Congress") +
       xlab("Distribution of 1st Dimension DW-NOMINATE by party")
```

```
## Picking joint bandwidth of 0.0483
```

```
## Picking joint bandwidth of 0.0446
```




```
ggplot(all_house_88_113, aes(x = dim_2, y = year1, group=year1)) +
  geom_joy(data=filter(all_house_88_113, party_code==100), scale = 7, size = 0.25, rel_min_height = 0.01, fill="b
lue", alpha=0.2) +
  geom_joy(data=filter(all_house_88_113, party_code==200), scale = 7, size = 0.25, rel_min_height = 0.01, fill="r
ed", alpha=0.2) +
  theme_joy() +
  #theme(axis.text.y = element_blank()) +
  scale_x_continuous(limits=c(-1, 1.3), expand = c(0.01, 0), breaks=c(-1,-.75,-.5,-.25,0,.25,.5,.75,1)) +
  #scale_y_continuous(breaks=c(seq(2010,1970,-5))) +
  scale_y_reverse(breaks=c(seq(2013,1963,-10))) +
  ggtitle("DW-NOMINATE (2nd Dim) by party of U.S. House: 1963-2013") +
  ylab("First Year of Each Congress") +
  xlab("Distribution of 2nd Dimension DW-NOMINATE by party")
```

```
## Picking joint bandwidth of 0.131
```

```
## Picking joint bandwidth of 0.092
```