

Happy New Year

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```
library(ggplot2)
library(magick)

## Linking to ImageMagick 6.9.9.9
## Enabled features: cairo, fontconfig, freetype, fftw, pango, rsvg, webp
## Disabled features: ghostscript, lcms, x11

# Jeroen Kromme, December 25, 2016. Christmas Tree with ggplot. blog post. Retrieved from:
# http://www.theanalyticslab.nl/2016/12/25/christmas-tree-with-ggplot/
# create data
x <- c(5, 5.2, 6.5, 5, 6.05, 5, 4.55, 4.05, 4.25, 3.25, 3.75, 3, 2.5, 2.65, 1.5, 1, 0.5, 0.1, 0.05)

dat1 <- data.frame(x1 = 1:length(x), x2 = x)
dat2 <- data.frame(x1 = 1:length(x), x2 = -x)
dat1$xvar <- dat2$xvar <- NA
dat1$yvar <- dat2$yvar <- NA
dat1$siz <- dat2$siz <- NA
dat1$col <- dat2$col <- NA

# set threshold for christmas balls
dec_threshold = -0.65

# create random places, sizes and colors for christmas balls
set.seed(173)
for (row in 1:nrow(dat1)){

  if (rnorm(1) > dec_threshold){

    dat1$xvar[row] <- row
    dat1$yvar[row] <- sample(1:dat1$x2[row]-1,1)
    dat1$siz[row] <- runif(1,0.25,1.75)
```

```

    dat1$col[row] <- sample(1:8, 1)
  }

  if (rnorm(1) > dec_threshold){

    dat2$xvar[row] <- row
    dat2$yvar[row] <- sample(1:dat2$x2[row],1)
    dat2$siz[row] <- runif(1,0.5,1.5)
    dat2$col[row] <- sample(1:8, 1)
  }
}

# The image_graph() function opens a new graphics device similar to e.g. png() or x11().
# It returns an image object to which the plot(s) will be written
fig <- image_graph(width = 400, height = 400, res = 96)

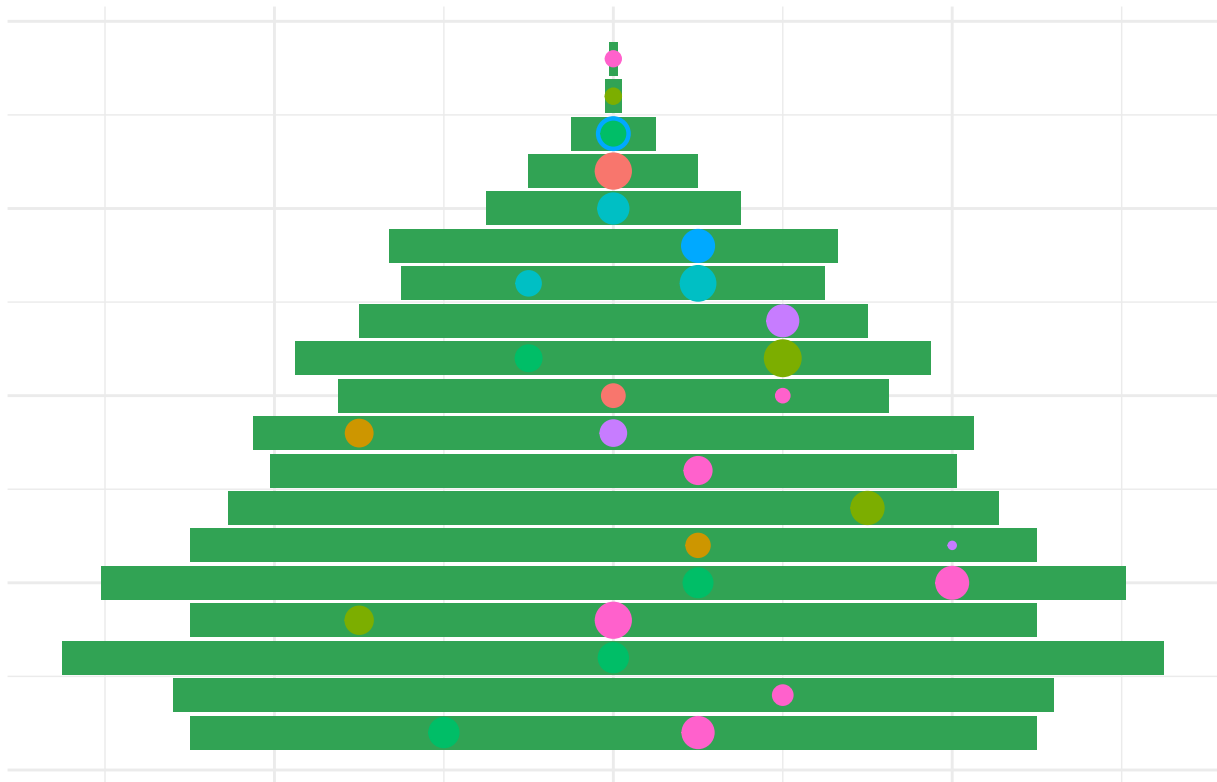
# plot and save the christmas tree
ggplot() +
  geom_bar(data = dat1, aes(x=x1, y=x2), stat = "identity", fill = '#31a354') +
  geom_bar(data = dat2, aes(x=x1, y=x2), stat = "identity", fill = '#31a354') +
  geom_point(data = dat1, aes(x = xvar, y = yvar, size = siz, colour = as.factor(col)) ) +
  geom_point(data = dat2, aes(x = xvar, y = yvar, size = siz, colour = as.factor(col)) ) +
  coord_flip() + theme_minimal() + theme(legend.position="none",
                                         axis.title.x=element_blank(),
                                         axis.text.x=element_blank(),
                                         axis.ticks.x=element_blank(),
                                         axis.title.y=element_blank(),
                                         axis.text.y=element_blank(),
                                         axis.ticks.y=element_blank()) +

  ggtitle('Happy New Year!!!') +
  theme(plot.title = element_text(hjust = 0.5)) +
  ggsave('~/.Documents/my_R/NewYear2018/ggplot_image.png')

# read snowman gif file
ny_gif <- image_read("http://www.animatedimages.org/data/media/277/animated-snowman-image-0105.gif")

```

Happy New Year!!!



```
#  
# Background image  
graph_bg <- image_read("~/Documents/my_R/NewYear2018/ggplot_image.png")  
background <- image_background(image_scale(graph_bg, "650"), "white", flatten = TRUE)  
# Combine and flatten frames  
frames <- image_apply(ny_gif, function(frame) {  
  image_composite(background, frame, offset = "+102+350")  
})  
# Turn frames into animation  
animation <- image_animate(frames, fps = 10)  
print(animation)
```

```
##   format width height colorspace filesize  
## 1   gif   650    650      sRGB         0  
## 2   gif   650    650      sRGB         0  
## 3   gif   650    650      sRGB         0
```

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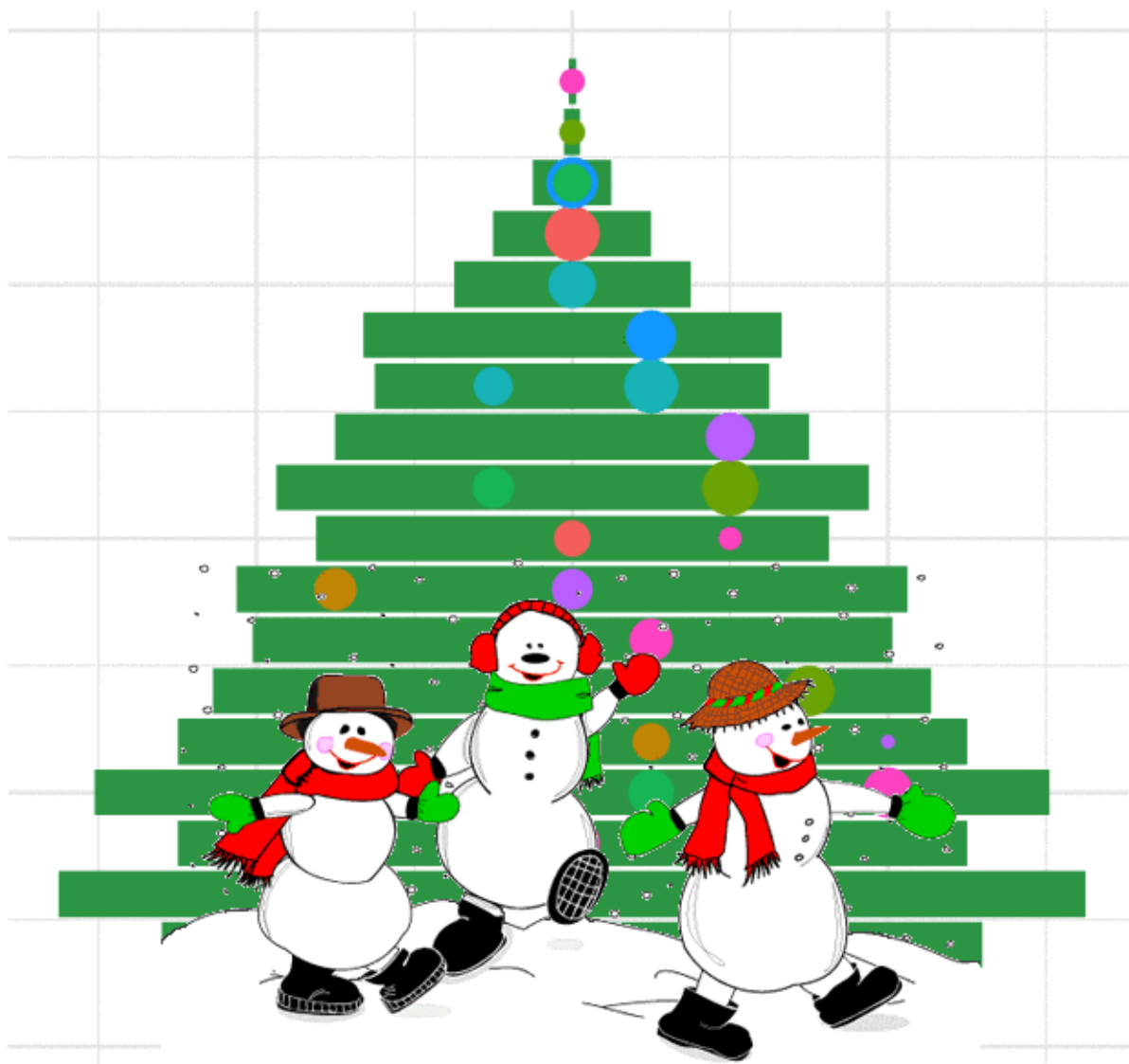


Figure 1: