```
```{r setup, include=FALSE}
data = read.csv("collegeData_processed.csv")
```
Column {data-width=350}

Chart A

```{r}
library(tidyverse)

data1 = cbind(data[,"HIGHDEG"],data[,"UGDS"],data[,"UGDS_WHITE"],data[,"UGDS_BLACK"])
%>% na.omit()
colnames(data1) = c("HIGHDEG","UGDS","UGDS_WHITE","UGDS_BLACK")
```

```{r}
# fnt of calculating percentage
tot_percent  = function(num,arg){
  subdata = data1[data1[,"HIGHDEG"]==num,]
  res = sum(subdata[,arg]*subdata[,"UGDS"])/sum(subdata[,"UGDS"])
}

ARG_PERCENT  = function(arg){
  sapply(0:4,function(i) tot_percent(i,arg))
}
```

```{r}
newdata = cbind(ARG_PERCENT("UGDS_WHITE"),ARG_PERCENT("UGDS_BLACK"))
rownames(newdata) = c("0","1","2","3","4")
colnames(newdata) = c("White","Black")
table = newdata %>% as.table() %>% as.data.frame()
```

```{r}
library(ggplot2)

ggplot(data = table, mapping = aes(x = Var1 , fill = Var2, y = Freq)) +
geom_col() + labs(y = "%", x ="HIGHDEG", fill = "race")
```
```

Chart B

```{r}
data2 = cbind(data[,"LATITUDE"],data[,"LONGITUDE"],data[,"HIGHDEG"]) %>% na.omit()
colnames(data2) = c("LATITUDE","LONGITUDE","HIGHDEG")
```

```{r}
library("ggthemes")

world_map = map_data("world") # load the world map

WORLD = ggplot(data.frame(data2[,"HIGHDEG"]),
aes(data2[,"LONGITUDE"],data2[,"LATITUDE"])) +
  geom_map(data = world_map, map = world_map,
  aes(x = long, y = lat, map_id = region, group = group),fill = "white", color =
"gray", size = 0.5) +
  theme_fivethirtyeight()

HIGHDEG = factor(data2[,"HIGHDEG"])

WORLD + geom_point(aes(colour = HIGHDEG), cex=1) +
scale_colour_manual(values=c("black", "red", "green","yellow","purple")) +
xlim(-150,-50) + ylim(10,50)
```