

AC4: Visualization around the crimes in Houston

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Data

I used the crime dataset from ggmap which contains 86314 observations and 17 attributes. Among them are the latitude and longitude of the crime scene, the type of crime, the date and others precise informations on the scene.

Analysis

A first mapping of the different offenses drawn in different colours in order to differentiate them allows us to see that hopefully the majority of the crimes are theft and are relatively spatially focused. In order to better visualize the place where most of the criminality stands, I used a heatmap.

```
# Mapping of the type of crimes-----
```

```
houston <- get_map(location = "houston", zoom = 13)
houstonMap <- ggmap(houston, extent = "device")
houstonMap + geom_point(aes(x = lon, y = lat, colour = offense),
                        data = crime) + ggtitle("Map of Crime in Houston")
```

```
# Heatwaves -----
```

```
houston <- get_map(location = "houston", zoom = 13)
houstonMap <- ggmap(houston, extent = "device")

houstonMap +
  stat_density2d(aes(x = lon, y = lat, fill = ..level.., alpha = ..level..),
    bins = 10, geom = "polygon", data = crime) +
  scale_fill_gradient(low = "black", high = "red") +
  ggtitle("Map of Crime Density in Houston")
```

Visualization

We can visualize that by combining the results of these two maps where is the place where criminality is really dense and that this is mostly due to a high concentration of theft.

